A WEEKLY JOURNAL
OF PHARMACY
—— AND ——
THE DRUG-TRADE.

THE CHEMIST AND DRUGGIST

ESTABLISHED
—— IN ——
ENGLAND 1859,
—— IN ——
AUSTRALASIA 1885.

The Official Journal of Eighteen Chemists' Societies in the British Empire.

Vol. LXX., No. 4. Series No. 1409.

WINTER ISSUE.

Published at the Head Office: 42 CANNON STREET, LONDON, E.C.
Branch Offices: Adelaide, Melbourne, and Sydney, Australia.

Subscription, **10s.** *per annum, including "The Chemists' and Druggists' Diary," post free to any port of the World.*
Single copies of this issue, **1s.** *post free. Ordinary issues,* **4d.**

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DRUGGISTS' SHIPPING TRADE.

The Export Merchant Shippers' Issue of The Chemist and Druggist will be published on March 9. The recent Board of Trade Returns testify to the extraordinary growth of the export trade from this country, chemicals, medicines, and allied products showing in 1906 more than the general average increase in quantities and values; and doubtless a large share of the future trade could be obtained by special efforts on the part of our advertisers to place their goods well before the trade in this number. In addition to the usual circulation to subscribers, copies will be sent to the buyers in the principal Export Shipping Offices throughout the United Kingdom. The Publisher will be glad to give any further information regarding the Number on application.

Summary.

The Current News in this issue up to Wednesday is in front of p. 135, except Market Reports, which begin on p. 170. (See Coloured Supplement for Thursday's News.) Between pp. 135 and 167 are many contributed and illustrated articles of exceptional interest, which are indexed in the Contents and a few are summarised in succeeding paragraphs.

Special Contributions.

A Medical Practitioner begins a series of observations on cathartics and cholagogues (p. 164).

Mr. Peter Fenton describes the rare fungus, *Agaricus rachodes*, found at Lintrathen (p. 136).

The Formulas in this issue are exceptionally valuable, and are all original and well-tried. They begin on p. 158.

Mr. S. Royce's observations on emulsifiers, emulsification, and emulsions are instructive and suggestive (p. 137).

Mr. J. A. Hughes's article on water-analysis tells how it can be done at the dispensing counter *à la* Proctor (p. 135).

Mr. F. H. Alcock describes how to prove the presence of boric acid in milk by production of methyl borate (p. 136).

Mr. J. C. Umney and Mr. C. T. Bennet show the analytical differences between East and West Indian lemongrass oils (p. 138).

Bookkeeping, stockkeeping, and display of goods in the shop are subjects of practical importance to every retailer. See the articles beginning on p. 154.

Four Pictures from Japan, with some notes on pharmacy and the drug-trade in that empire, suggest comparisons with people and practices at home (p. 140).

Dispensing in a Modern Hospital is an elaborate and instructive process, as may be gathered from our illustrated description of the Newcastle Infirmary dispensary (p. 147).

The Electress Anna of Saxony founded a royal pharmacy which was removed to Dresden in 1581. Mr. G. P. Forrester, one of the staff of this apotheke, describes it in quaint manner on p. 145.

Leading News.

Mr. P. F. Rowsell, of Exeter, has been elected President of the P.A.T.A. (pp. 116 and 122).

Chemist-Opticians will find a valuable official (London) report on spectacles for school-children on p. 125.

The Kingston Drug-store, figured in the *C. & D.*, was involved in the Admiral and Governor incident (p. 134).

Glacial Acetic Acid storage in London warehouses occasionally results in loss of acid by leakage. A case illustrating the legal responsibility is reported on p. 113.

An Exhaustive Report of the second hearing of the belladonna-poisoning case inquest, with the arrest of Mr. Bartlett, the Battersea chemist, on a charge of manslaughter begins on p. 123.

An advance of 1*d.* in official quinine is the chief alteration in our markets. Cinchona, copaiba, ferri et quin. cit., and sulphate of ammonia are higher. Creosote and guaiacol carbonate are lower (p. 170).

Corner for Students.

Conducted by Leonard Dobbin, Ph.D.

Students, please note All communications should be addressed to the Editor of "The Chemist and Druggist," 42 Cannon Street, London, E.C.

All communications and reports must bear the names and addresses of the writers, not necessarily for publication. The reports of those who ignore this rule are liable not to be dealt with.

Reports.

The powder distributed to students on January 2 consisted of equal parts by weight of lead hydroxycarbonate, zinc sulphide, and potassium chloride. The calculated composition of such a mixture is :

Pb	26.7
Zn	22.4
K	17.5
CO_3	5.2
S	11.0
Cl	15.8
OH	1.4

The powder also contained, as impurities, notable traces of ammonium, calcium, and of the sulphuric radical, a trace of magnesium, and a minute trace of the hydrobromic radical.

Samples of the powder were distributed to forty-four students, and sixteen reports were sent in for examination. All of our correspondents succeeded in detecting potassium and the hydrochloric radical. The failures in the detection of the other main constituents of the powder were :—(*a*) Metallic radicals : Lead 2, zinc 2; (*b*) Acid radicals : Carbonic 6, hydrosulphuric 1. As regards the impurities, nine students failed to detect the calcium, ten the magnesium, and eleven the sulphuric radical; while the presence of ammonium was not reported by a single correspondent.

A circumstance which specially attracted the attention of students this month was that when the powder (which only dissolved partially in water) was treated with dilute hydrochloric acid, it gradually darkened and eventually became quite black. This change was due to the decomposition of the zinc sulphide and the interaction of the hydrogen sulphide so produced with the lead carbonate to form lead sulphide, and it was explained in this way by most of our correspondents. The darkening which occurred when the powder was heated alone or with solution of sodium hydroxide was similarly due to the formation of lead sulphide.

In spite of the well-marked odour of hydrogen sulphide recognisable during the copious evolution of gas-bubbles which took place when the powder was treated with hydrochloric acid, a number of the more wary of our correspondents did not rely upon the happy-go-lucky assumption that one effervescence, one gas recognised, exhausted the possibilities of the situation; and they proceeded to test for carbonic anhydride also, most of them recognising its presence without difficulty. The majority of those who failed to note the liberation of carbonic anhydride failed because they did not test for this gas.

One or two correspondents noted and commented upon the fact, not generally known to students, that the zinc sulphide was not decomposed by boiling with sodium carbonate in the preparation of the solution to be tested for acid radicals. Many students suppose that the boiling of a substance with sodium carbonate is an exhaustive method, and that the "sodium-carbonate extract" contains all the acid radicals present in the original substance. That this is an erroneous supposition is proved by the present instance, and there are a number of other insoluble substances—sulphides as well as other salts—which are not attacked by a boiling solution of sodium carbonate.

Detecting and obtaining conclusive proof of the presence of the various impurities were not altogether easy matters, considering the small quantity of the powder at the disposal of individual students. The sulphuric radical was one of the most easily detected, and yet only five students noted its presence. More remarkable, perhaps, was the all-round failure to detect ammonium. Although the quantity of ammonium present was very small, a distinct reaction with litmus or turmeric paper was readily obtained when the usual liberation of ammonia by means of sodium hydroxide or soda lime was properly and carefully carried out, even with a very small quantity of the powder. In order to test satisfactorily for the calcium, it was necessary that the lead and zinc should be completely removed, and delicate treatment was requisite in order to prove the presence of the trace of magnesium after the calcium had been entirely eliminated. We are not satisfied that the reactions attributed to calcium compounds were not in some instances mainly due to incompletely separated traces of lead and zinc compounds, and it seems to be almost certain that some of the precipitates attributed to the presence of magnesium were really due to the traces of calcium present.

A point which frequently arises in connection with one of the methods of testing for acetates, and which has made its appearance again this month, merits some comment, since a good deal of misconception seems to exist with regard to it. Students often report the result of adding ferric chloride to a solution as a test for an acetate in some such terms as the following : "No red colour, and no precipitate on boiling, therefore no acetate"; or "No red colour, but a brown precipitate on boiling, therefore an acetate present." The formation or the non-formation of a red-coloured solution is the only part of this not very satisfactorily distinctive test upon which *any* reliance can be placed, and the formation of a precipitate on boiling is of no value whatever as a characteristic reaction of acetates. There are several other acid radicals, besides that of the acetates, which yield precipitates of insoluble basic ferric salts when boiled with a nearly neutral solution of ferric chloride.

Prizes.

The first prize for the best analysis has been awarded to
Edgar Hill, 51 Carlisle Terrace, Bradford, Yorks.

The second prize has been awarded to
W. Honneyman, 8 Gladstone Street, Hartlepool.

First Prize.—Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Second Prize.—Any scientific book which is sold for about five shillings may be taken as a second prize.

The students to whom prizes are awarded are requested to write at once to the Publisher naming the book or books they select.

Marks Awarded for Analyses.

1. *Correspondents who are unqualified:*

Edgar Hill (1st prize)	96	Sintram	91
W. Honneyman (2nd prize)	95	A. F. W.	80
J. E. B.	94	Mebe	79
A. D. N.	93	Bronkho	78
Micros	93	Euripides	78
V. L. B.	93	Norseman	55
		S. N. N.	23

2. *Correspondents who are qualified, or who have not indicated that they are unqualified:*

Boiling Point	91	W. P. P.	76
Tamot	96		

Edgar Hill.—Denigès' test for citrates consists in oxidising the citric radical by means of potassium permanganate in presence of a strongly acid solution of mercuric sulphate, when a highly insoluble white precipitate is produced. Prepare the mercuric-sulphate solution by adding 20 c.c. of concentrated sulphuric acid to 100 c.c. of water and then adding 5 grams of mercuric oxide to the still hot mixture. To apply the test, boil 5 c.c. of the solution to be tested for a citrate with 1 c.c. of the mercuric-sulphate solution, and cautiously add to the almost boiling mixture from 1 or 2 to 5 or 6 or more drops of a 2-per-cent solution of potassium permanganate. In the presence of a citrate the permanganate rapidly becomes decolourised, and then a white precipitate somewhat suddenly makes its appearance. A tartrate also decolourises the permanganate, but no precipitate is produced. Try some experiments with citric acid and with tartaric acid, and then with mixtures of the two, before employing the test in the case of unknown substances.

V. L. B.—We note with gratification the extreme care you took in endeavouring to establish beyond doubt the presence of a trace of a bromide. The potassium chloride used in preparing the exercise did indeed contain a minute quantity of bromide, and the method you employed was the only one by which we were able to recognise its presence. In mentioning a confirmatory test for lead, you seem to have written potassium chromate, by mistake, instead of potassium iodide, since you describe a result which the latter could but the former could not produce.

SINTRAM.—The filtrate from the lead chloride must still have contained some of this salt, since it is not wholly insoluble in water, and hence you must have had some lead sulphide precipitated either on passing hydrogen sulphide through it, or, later, on adding ammonium hydrosulphide. You say, however, that no black precipitate was produced in either case, so it may be that the zinc sulphide was only slightly darkened by its presence, and not sufficiently so to attract your special attention. Of course, lead sulphide should not get mixed with the ammonium-hydrosulphide precipitate at all.

MEBE.—You do not seem to have made any attempt to prove the presence or absence of a carbonate.

BRONKHO.—The precipitate which you supposed to be due to aluminium was probably due to lead which had not been separated by means of hydrogen sulphide. We cannot offer any explanation for your failure to obtain a precipitate of zinc sulphide in "Group III. *b*."

EURIPIDES.—You should have proved sulphate absent prior to oxidation of the powder if you wished its presence after oxidation to be of *any* value as evidence of the presence of a sulphide; but note that sulphites and thiosulphates, as well as sulphides, yield sulphates when oxidised by means of suitable reagents. Use sodium hydrogen tartrate instead of tartaric acid in testing for potassium.

NORSEMAN.—Your failure to detect lead was no doubt due to your heating the hydrochloric-acid solution of the powder when hydrogen sulphide was passed into it. Lead sulphide is readily soluble in hot dilute hydrochloric acid. The supposed iron sulphide was really lead sulphide.

BOILING POINT.—Had the filtrate from the lead chloride not contained too much hydrochloric acid it would have given a precipitate of lead sulphide when hydrogen sulphide was passed through it. The ammonium-hydrosulphide precipitate should have been white, but yours was "brownish," owing to its containing lead sulphide along with zinc sulphide. We regret that language fails us to make it more clear than we have done "that it is only necessary that the component radicals" in the present series of exercises "be in the Pharmacopœia," and not "that we can only have B.P. compounds." Our notices contain no suggestion to the latter effect.

W. P. P.—The darkening which took place when the powder was heated was not due to charring, but to the formation of some lead sulphide.

Information Wanted.

Inquiries for the names and addresses of manufacturers, or other trade information, not traceable by reference to the advertisement-pages of "The Chemist and Druggist" and the "C. & D. Diary," or not filed in our private register, are inserted here free of charge. Postcard or other replies to any of the subjoined inquiries (addressed to the Editor "The Chemist and Druggist," 42 Cannon Street, London, E.C.) will be esteemed.

13/5. Makers of square amber-glass jars, fitted with glass lid and metal screw-ring, for packing moist gauze.

19/91. Where can Fox's Analeptic Herbal Ointment be obtained in London? It is a hair-tonic made by "Frances Fox, New York and London."

English News.

Local Newspapers containing marked items of news interesting to the Trade are always welcomed by the Editor.

Brevities.

Professors Kowalski and Moscicki, of Freiburg University, are reported to have made an important discovery, which will greatly facilitate the preparation of nitric acid from the nitrogen of the atmosphere.

A box of safety matches, a button-hook, and a few chlorate of potash pellets caused spontaneous combustion in the trousers-pocket of a Winchester man, named Vokes, his thigh as well as his clothes being badly burned.

At Bournemouth, on January 17, the medicated-wine licence attached to the business carried on at 15 Commercial Road by Mr. J. T. Hall, chemist and druggist, was transferred to Mr. J. B. Morris, chemist and druggist, who has taken over the business.

A sentence of three months' imprisonment on each of four charges of obtaining money by false pretences has been passed by the Middlesborough Magistrates on John Joseph Iley (29), described as a chemist, but not on the Register of Chemists and Druggists.

George Rhodes, the Northfleet insurance-agent, whose wife accused him of attempting to poison her with ammoniated mercury, has been discharged, medical evidence having convinced the Magistrates that Mrs. Rhodes is suffering from mental weakness.

William Edward Boon Jenkinson, described as a chemist, but not on the Register, has been committed for trial at Bromley, Kent, on a charge of obtaining money by false pretences. Jenkinson represented that he was employed by a City firm to sell goods to laundrymen.

At the Mansion House Police Court on January 22, Henry James Grant Seymour (32) was remanded on a charge of obtaining 7,200*l.* from Messrs. Charles Buch & Co., of 6 Mincing Lane, E.C. It was stated by the prosecution that Messrs. Buch were induced to advance the sum named on a non-existent cargo of antimony.

Sensational charges of conspiracy against members and officials of the West Ham Board of Guardians are being investigated by the Stratford Magistrates. In connection with a soap-contract one witness at the hearing on January 21 stated that Cook's contract was accepted by the Guardians. The workhouse-master, however, demanded 5*l.* from Cook's traveller before the contract was settled, but the traveller replied that his firm would not listen to any such proposal.

Institute of Chemistry Examinations.

Of eleven candidates who entered for the Intermediate examination this month the following eight passed: R. R. Bennett, A. G. Harrington, J. H. Lane, C. P. Matthews, B.Sc.(Lond.), A. Miller, M.B.(Lond.), Capt. I.M.S., P. Murphy, B. D. Porritt, and E. C. Ward. In the Final examination for the Associateship, of seven examined in the branch of Mineral Chemistry, five passed: J. Dick, jun., C. M. W. Grieb, B.Sc.(Lond.), A. T. King, B.Sc.(Lond.), A. Lathwood, B.Sc.(Lond.), and J. F. Reid; of three examined in Metallurgical Chemistry, two passed: H. G. Dale and R. F. Innes; of three in the branch of Organic Chemistry, one passed: H. Stanley, B.Sc.(Lond.); and of ten (including one Associate), who entered in the branch of the Analysis of Food and Drugs, and of Water, including an examination in Therapeutics, Pharmacology and Microscopy, the following eight passed: T. R. Hodgson, B.A.(Cantab.), H. Hurst, B. R. James, J. D. Kettle, B.Sc.(Lond.), F. Maudsley, B.Sc.(Vict.), J. Thompson, Ph.D.(Heidelberg), W. A. Whatmough, A.I.C., and C. H. Wright, B.A.(Cantab.).

St. Thomas's Hospital Dispensership.

The Grand Committee of this hospital reported to a General Court of the Governors of the hospital, held at the Governors' Hall of the hospital, Lambeth Palace Road, S.E., on Wednesday, January 23, that they had declared a vacancy in the office of pharmacist (owing to the death of Mr. Harold Wilson), and that the vacancy had been advertised. Applications were not accompanied by testimonials, and the treasurer and almoners made a selection from the candidates. The selected candidates were reported to the committee for election, and the committee had elected Mr. J. A. Jennings to the position, subject to confirmation by the General Court. This the governors agreed to at Wednesday's meeting. Mr. Jennings was formerly assistant dispenser at the hospital under Mr. E. White, and left that position for the London Hospital, where he has been chief dispenser for several years. Mr. Jennings passed the Minor examination in October 1887 and the Major as recently as July 1905.

An Optical Problem.

Sir A. Conan Doyle has been investigating the Edalji case, and has published in the "Daily Telegraph" his reasons for considering that a grave miscarriage of justice has taken place. One of the chief points emphasised is the visual deficiency of the young man, and several oculists and opticians have given their opinions on the following problem which Sir Conan puts to medical readers :

> Do you consider it physically possible for Mr. George Edalji, whose degree of myopic astigmatism as determined by retinoscopy under homatropine is
>
> Right eye – 8.75 diop. spher.
> – 1.75 diop. cylind. axis 90°.
> Left eye – 8.25 diop. spher.,
>
> to have set forth upon a pitch dark night with neither moon nor stars, to have crossed country for half a mile climbing fences, finding gaps in hedges, and passing over a broad railway line, to have found and mutilated a pony which was loose in a large field, to have returned half a mile, and to have accomplished it all under thirty-five minutes, the limit of the possible time at his disposal? Mr. Edalji did not wear spectacles.

Contracts.

The following contracts have been settled :

Blean Board of Guardians.—Messrs. Walker & Harris, chemists, Canterbury, for disinfectants.

Mr. E. P. Wynne, chemist and druggist, Aberystwyth, has been appointed dispenser to the Infirmary at a salary of 25*l*. per annum.

Barnsley Town Council.—Mr. Ernest Nash, pharmaceutical chemist, for drugs to the Kendray and Small-pox Hospitals for the ensuing year.

The Salisbury Board of Guardians on January 18 decided that the Board should in future provide all medicines for the workhouse, instead of the medical officer doing so. The question of having the medicines supplied by contract was referred to the committee.

At a meeting of the Hospital Committee of the Barry Urban District Council last week, a complaint was considered from the chemists at the Barry end of the district to the effect that they were never given an opportunity of supplying requirements for the Accident Hospital. A report was presented showing that the total expenditure in this direction during the past twelve months was 12*l*. 15*s*. 8*d*., and that a turn was given to all the chemists at Barry Docks. Instructions were given to inform the chemists who had made the complaint that it did not mean 10*s*. a year to each chemist.

Fire.

On January 20 a fire occurred at the branch shop of Boots, Ltd., at 301 Belgrave Road, Leicester, but no great damage was done. It appears that the chimney next door got on fire in some manner, and, the partition wall being very thin, the heat set fire to some drug-fittings. As it was, a portion of the fittings was destroyed, and a number of shop-rounds broken and glass cases cracked, and some pounds' worth of stock damaged, as well as the match-boarded ceiling. Had the fire fairly got hold of the ceiling, it would have quickly spread the flames all over the premises.

Football.

On January 17 Wand's United F.C. met Leicester Wesley Hall F.C. in a return League match on the Victoria Park, Leicester. Fine football weather prevailed, and a fast game ensued. Wesley Hall were the first to open the score, rushing a goal through in nine minutes from the start. This was all the scoring done in the first half. On resuming Wand's put on two goals in quick succession, but Wesley Hall equalised soon after. Wand's tried hard for a winning goal, but although they had much the best of the play they could not get through, the game thus ending in a draw of two goals each.

Midland Notes.

The greater number of candidates from Birmingham and district who passed the Minor this month went up, we are informed, from the Birmingham and Midland College.

Dr. Thomas Savage, a local gynæcologist of note, who resided at Knowle, was among the victims of the disastrous earthquake at Kingston. He had gone to Jamaica for the benefit of his health. He was very friendly to pharmacy and the pharmacist.

A whist-drive, extending over five hours, was held at the Grand Hotel, Birmingham, the social headquarters of the local Association of Pharmacists, on Thursday, January 24. It was a representative assembly of members and their friends, and included a social gathering and supper, with extension of time to 11.30 P.M.

The King's Norton Urban District Council accepted Messrs. Cadbury's offer to provide Stirchley and Bournville school-children with tooth brushes, powders, and washes for a period of three years, on condition that the hygiene of the mouth and care of the teeth form part of the instruction to the children. It has not transpired who has secured the contract.

Commercial Travellers' Samples.

A general order relative to Customs facilities for the clearance of commercial travellers' samples has been issued by the Board of Customs. It gives effect to an agreement recently concluded between the United Kingdom and Belgium, but negotiations are now in progress with other countries for the purpose of arranging similar reciprocal facilities. Dutiable articles serving as samples are to be admitted free of duty, subject to certain regulations. A declaration containing a description of the samples must be officially attested by the proper authority in the country of exportation, and a deposit of the duty is to be required before delivery of the samples, or bond given for the amount instead of a cash deposit. On exportation a return of the deposit is made or the bond cancelled after the declaration has been verified by a comparison with the samples.

Sheffield Notes.

The oil-warehouse of Messrs. Clark & Co., chemists and druggists, West Street, had a narrow escape from destruction by fire last week. A workman dropped a lighted match and it set alight some oil-saturated sawdust. The fire brigade soon put the fire out.

The Sheffield Board of Guardians have for some years been giving diarrhœa-mixture away to all comers, without restriction. Their head dispenser having recommended that this practice should be discontinued, they asked Mr. Newsholme and the Chairman of the Board to see the medical officer of health on the matter, and as a result of their interview the indiscriminate issue of the mixture has been stopped.

The business of Mr. H. B. Fallding, chemist and druggist, 252 Langsett Road, has been acquired by Mr. John Chadwick, late of Barnsley. Mr. Chadwick was apprenticed to Mr. Jervis Marshall, of Accrington, one of the old type of pharmacists, whose apprentices were "trained" in the fullest and best sense. They not only made all infusions, etc., but even had to acquire the art of printing, as Mr. Marshall printed his own bills and announcements. Mr. Chadwick has had a wide and varied experience in almost every part of the country.

The keenness with which readers looked forward to the issue of Sir Walter Scott's novels is nothing compared with the interest aroused by the issue of the catalogue of the annual winter sale of Messrs. John Walsh, Ltd., of High Street, drapers, furnishers, electricians, and—incidentally—chemists and druggists, which is just out. The drug-department's bargains occupy one page of "Remarkable reductions. An opportunity for obtaining goods of guaranteed and standard quality at reduced prices," which will surely be sufficient to attract the custom of the proposed Trades Section of the local Society. Among the treasures set out are Parrish's chemical food, 1-lb. bottles reduced to 7½*d*., and the same quantity of pure Norwegian cod-liver oil, and of glycerin (finest quality), at 1*s.* 1*d.* and 10½*d.* respectively. Two 1*s.* sizes of cascara-tablets are to be had for 1*s.* 2½*d.*; while the 1*s.* size of stomach and liver beans may be obtained at two for 1*s.*, Chesebrough's vaseline 1*s.* size at 4*d.*, and Lanoline three 1*s.* tubes for 1*s.* 3*d.* "Jaborandi, Quinine, etc.," hair-tonic, 1*s.* 6*d.* size for 9½*d.* Cloudy ammonia 1*s.* bottles are three for 1*s.* 8*d.*, and English-made enemas, "guaranteed for twelve months, usually sold at 2*s.* 11*d.*," are offered at 1*s.* 9*d.* each.

Early Closing.

A meeting of shopkeepers in the King Cross district of Halifax was held on January 21 to consider the question of earlier closing. In the course of the discussion, Mr. W. R. Fielding, pharmaceutical chemist, said the chemists generally of the town closed on Thursdays at 1 P.M., but opened again after tea. The chemists in the town did not reopen, but at King Cross they were all open. Personally he would much prefer the Shop Hours Act, but if they could not have that, he was willing to fall in with a voluntary arrangement. Mr. F. A. Sutcliffe, chemist and druggist, said he would do what the other chemists in the main street of King Cross did, but he could not bind himself not to open on Thursday evenings. The Chairman at this point made a special appeal to the four chemists; they could easily, he thought, be unanimous if each were wishful to be so. Mr. Percy Swire (Hon. Secretary to the Halifax Chemists' Association) hoped that the drug-trade of King Cross would go in wholly for the earlier closing. Speaking also on behalf of his father (who had had to leave the meeting), he said they were anxious to have a general betterment of conditions for other shopkeepers, and, though keeping open late did not inconvenience them personally, they were anxious to be on the most friendly terms with everybody connected with the trade; therefore, if the list of closing-hours were clearly understood they would not violate them. A resolution "that the list of closing-hours stated in the canvass be adopted by the shopkeepers in the King Cross district on and after February 4" was carried without dissent, Messrs. Percy Swire, J. H. Jowett, A. Fielding, and F. North being appointed a committee to carry out the arrangement.

The Herbalist's Treatment.

At an inquest held at Portsmouth Town Hall on January 21, on Benjamin John Cobb (15), who died from a disease of the cartilage between the thigh and the base of the spine, the mother said when the boy began to limp she was advised by a doctor to take him to the hospital. She did not do so, however, but took him, in September 1905, to a shop which had on its front the name "Dr. Sequah" and "Advice free." "Sequah" gave her bottles of medicine, American rubbing-oil, ointment, and "some dirty powder to put on the flesh," but the powder witness did not use. She paid Sequah five guineas and got a receipt for "goods." "Sequah" never told her that he was a herbalist. In February 1906 she took the boy to the doctor again and he attended him until his death on January 19, 1907. Dr. Fowler, who attended the boy before and after the herbalist's treatment, said deceased might probably have recovered in hospital, but it was doubtful. It was not the treatment from which he suffered, but the want of it. Alexander Middleton ("Sequah") said he was a herbalist trading at 23 Lake Road, Portsmouth, and had no medical qualifications. He concluded that the boy was suffering from a tumour arising from a blow. He sold the medicine and only charged for that. He charged a guinea a month, and people could have anything they wanted for that. The Coroner said the evidence was insufficient to justify a charge of manslaughter, but he severely condemned Middleton for interfering in the case and making false representations as to his qualifications.—A verdict of accidental death, with a rider condemning Middleton's action, was returned.

Death after Quinine.

At an inquest held at Lyndhurst on January 16 on the body of Sylvia How, aged two years, it was stated in evidence that the child after running about the house became violently sick from some unknown reason. The doctor was sent for, but he was out. Mr. W. H. Broomfield, chemist and druggist, was seen, and he recommended that some mustard and water be administered, seeing that it was suspected some poisonous substance had been taken. The child subsequently had a convulsion and died. An empty bottle, which had contained some quinine tabloids, was afterwards found in a bedroom. The lid had been removed from the tabloid-bottle, and a tin of carbolic tooth-powder had also been opened, only a small quantity of the powder being left in the tin.—Dr. C. H. Wilmer, who made a *post-mortem* examination, found the lining of the stomach slightly congested, but nothing to show what was the cause of death. If quinine had been taken, he said, it would not leave any effect on any of the organs, so that without an analysis of the blood quinine could not be traced. If it could be proved that the child took two or three of the tabloids which the bottle (produced) had contained, that would be quite consistent with the child's symptoms. He thought the tabloids would have dissolved, after being taken, in about an hour. The bottle produced purported to contain ordinary quinine tabloids, which he had ordered Mrs. How as a preventive against influenza. The tabloids were sugar-coated.—The jury returned a verdict that death was due to misadventure, in consequence of the deceased child having swallowed a number of quinine tabloids, which caused sickness, diarrhœa, and death.

Trouble in Store.

Dr. Wynn Westcott held an inquiry at the Hackney Coroner's Court on January 19, respecting the death of James Thomas Wheatley (2), son of a Hoxton carpenter. The mother stated that her husband obtained a pennyworth of carbolic acid from a chemist close by. He took a beer-bottle with him, and the chemist put the acid into it, putting on a "poison"-label, but not removing the beer-label. She poured a little of the acid into some water, and left the bottle containing the remainder on the table. Some time later she saw the baby with the bottle in its mouth, and before she could do anything the child had drunk some of the contents. She took him at once to the Metropolitan Hospital, where he died next day. The Coroner remarked that the bottle was not labelled with the name and address of the seller, and he ordered his officer to see the chemist in question and find out if he was registered and why he had not taken the precautions prescribed by Act of Parliament. Although in this particular case the child had been too young to suffer thereby, he could scarcely conceive of anything more foolish than putting carbolic acid into a beer-bottle without removing the label. He also commented on the popularity of various poisons, observing that the sale of carbolic acid had markedly diminished since it had been placed on the Poisons Schedule. The chief poison used by suicides is now, he said, oxalic acid. The jury returned a verdict of accidental death, adding that they considered the action of the chemist should be inquired into. The Coroner said it would be reported to the Pharmaceutical Society, who would, no doubt, deal with the matter.

The Drug-habit.

Mrs. Florence Iggulden, of St. Margaret's, Twickenham, died last week from morphine-poisoning, and at the inquest held on January 18 Dr. Howard H. Murphy gave evidence that deceased was liable to severe internal pains, for which he had given her hypodermic injections of morphine. He last gave her morphine hypodermically about the middle of December. He administered ½ grain at first, increasing it to ⅔ grain for three or four days. He told Mr. Iggulden some years ago that deceased was using morphine herself, and it was then stopped. Witness had always refused to give her any prescription for it, so that any she got would not be from any prescription of his. When he was called in on January 15 she was dead. She had been giving herself hypodermic injections, and her skin was riddled with punctures. Mr. G. H. Walkden, assistant in the shop of Howard & Co., chemists, Richmond, said he believed the prescription on which the morphine injection was supplied by him was dated May 1900. The strength was 12 grains to the ounce. Deceased had about two bottles a week, sometimes less. It was not a recognised custom to refuse to serve morphine unless an old prescription was renewed. So long as the dose was not too big the prescription would be made up. The price for the quantity of solution usually sent to deceased was 5*s.* 6*d.* Death by misadventure was the verdict.

At Bow Street Police Court on January 22, Gopul Muttylall, an Indian law student, was charged on remand with breaking the windows of his landlady's house. The prisoner's defence was that when he was a child he suffered from asthma, and, acting on medical advice, his father gave him extract of opium, which was supposed to be a remedy for the disease. He eventually recovered, but when he came to this country a few years ago to study law at Lincoln's Inn, he again suffered from asthma, and again took extract of opium. When he returned to his old lodgings on the morning in question he had been taking extract of opium, and he felt as if fire was coming out of his eyes, ears, and nose. Since he had been on remand in prison he had felt better, and in future he would take no more drugs. After reading a report from the prison doctor, the Magistrate said he did not think the accused knew what he was doing at the time in consequence of the drug he had taken. He ordered him to pay the landlady for the damage he had done, and bound him over.

Irish News.

Local newspapers containing marked items of news interesting to the Trade are always welcomed by the Editor.

Personal.

Mr. M. Carroll, pharmaceutical chemist, who took first place in the recent Licence examination, has been appointed manager of McGrath's Medical Hall, Bagnalstown.

Economy in Drugs Desirable.

The L.G.B. have written to the Guardians of the Mohill Union stating that more economy might be exercised in connection with the supply of drugs and medical and surgical appliances to the Union, and requesting that the matter be inquired into before recoupment is made in respect of this expenditure.

An Old Question.

Messrs. Boileau & Boyd, Dublin, have written to the Granard Guardians asking for the payment of their account for the supply of drugs, etc., to December 31 last. They also sent an account for the balance due in respect of unreturned empties, and in the letter which accompanied the accounts, complaint is made of the difficulties in either obtaining empties from the medical officers or getting notice that empties are ready for removal.

Theft from Druggist.

At Belfast police court on January 18, two brothers, James Jack (16) and Henry Jack (17), were charged with stealing 11*l*. from the premises of Mr. J. Guthrie, druggist, 271 York Street. There were twenty-two other charges of burglary against the accused.—Mr. Lewis, for the prosecution, said that in Mr. Guthrie's case an employé had been suspected of stealing money and had been discharged, so it was desired, as far as possible, to clear his character.—The Stipendiary sent Henry Jack to gaol for six months, and James to Malone Reformatory for five years.

The Calendar.

The new edition of the Calendar of the Pharmaceutical Society of Ireland for 1907 has been issued this week. It is a useful publication dealing with the official work of the Society, and contains the printed registers of pharmaceutical chemists, members, chemists and druggists, and druggists. Students will also find the Calendar useful, because the series of papers which were set in the 1905 examinations are given in full. Copies can be had from the Registrar, 67 Lower Mount Street, Dublin, 1*s*. 9*d*. (paper covers) and 2*s*. 3*d*. (cloth boards), post free.

Washing-soda Crystals.

The adjourned hearing of the case of O'Connor *v*. Collins, in which defendant, a commission agent, of Lower Abbey Street, Dublin, was summoned for having sold washing-soda crystals mixed with Glauber salts (*C. & D.*, January 19, p. 76), was listed in the Dublin Northern Police Court before Mr. Mahony, Divisional Magistrate, on January 22. When the case was called, however, on that date, it was stated that both parties to the suit had arranged a further adjournment until January 28, when the matter will be fully gone into.

Scotch News.

Local newspapers containing marked items of news interesting to the Trade are always welcomed by the Editor.

Earthquake at Oban.

The earthquake which was experienced in the West Highlands of Scotland on Thursday, January 17, was severely felt at Oban, where many persons, fearing the fall of their houses, betook themselves to the streets. In the pharmacy of Mr. D. McD. Skinner the shop-rounds were in visible motion, many moving from their position on the shelves; in that of Mr. Alexander Robertson the plug-stoppers of the syrup shop-rounds "danced." The floor of the shop rose and fell with a peculiar motion, and in a wet store-room in the flat above the shop, where the shelves all run from east to west, the Winchester quarts were displaced. In Mr. Samuel Lawrence's pharmacy bottles of perfume, etc., in a plate-glass shelved showcase knocked together, creating some noise. Fortunately no breakage occurred in any of these shops.

Aberdeen Notes.

Mr. Chas. J. Kay is spending a holiday in the Canary Islands previous to taking up his appointment with Messrs. Allen & Hanburys, Ltd.

At the "At Home" given by Mr. and Mrs. Bryce prior to their departure for America, the trade was represented by Mr. Wm. Reid and Mr. Charles Chree.

The directors of the Aberdeen Royal Infirmary have accepted the tender of Messrs. Wm. Paterson & Sons for the supply of drugs during the ensuing year.

A recent epidemic of whooping-cough and a prevailing one of influenza have kept the local chemists and doctors extremely busy lately. This more than compensates for the "drop in perfumes."

The *C. & D.* of January 12 was of special interest to Aberdeen chemists, containing as it did a portrait of an ex-President of the Aberdeen Pharmaceutical Association, Mr. James Clark. If the London Assistants' Association requires wakening up, Mr. Clark is the man to do it.

The chemists of Aberdeen were not behind other shopkeepers in the matter of attractive windows during the Christmas and New Year seasons. Mr. Robert Hunter, in his usual artistic style, had a beautiful display of cased perfumes. Mr. A. P. Wallace's display was unique; for a centrepiece he had a pretty model of a Chinese pagoda, with coloured windows, and at night, when lit up by electricity, the many colours had a very fine effect. Owing to the great snowstorm the sale of perfumes was considerably reduced this year; one chemist's sales dropped over 10*l*. in that line during the New Year week.

Glasgow Notes.

The fair sex in pharmacy are beginning to take up sight-testing.

There are likely to be more entries for the Kinninmont gold medal this year.

In certain districts of the city diphtheria is prevalent, and chemists are having a fair share of prescription-work.

A local pharmacy was broken into the other day, and a few packets of Gregory's mixture were appropriated by the burglars.

Mr. Hugh Paterson, chemist and druggist, Wishaw, has commenced studies at the University for the degree of M.B. and Ch.B.

The art of window-dressing is at present receiving a good deal of attention from Glasgow chemists. Time was when they gave it scarcely a thought.

One or two of Glasgow's big pharmaceutical firms have found it necessary to reduce their staffs of assistants, owing to business being rather quiet.

Messrs. Cockburn & Co., Ltd., "The Leading Chemists," have issued a new price-list. The cover bears the arms of the Pharmaceutical Society (!), and the preface to the list is an illustrated and beautifully printed description of "The Progress of Pharmacy: Behind the Scenes in a Progressive Pharmacy." It shows the manufacturing and packing departments of the firm's business.

French News.

(From the "C. & D." Paris Correspondent.)

The Red Ribbon.—M. Lentheric, the Paris perfumer, has been nominated Chevalier of the Legion of Honour.

Paris Society of Pharmacy.—The annual general meeting of this Society was held recently, M. Charles Cronon, last year's President, occupying the chair. The report of the work of the Society during 1906 was read by the Annual Secretary, M. François. After the usual speeches M. Viron took the chair as President for 1907, M. Schmidt being installed as Vice-President and M. Bougault as Annual Secretary.

Scholarships.—The successful candidates in the competition opened on October 30, 1906, for scholarships at the Paris Faculties and the Superior School of Pharmacy were recently published in the "Journal Officiel." The only "first year" free pharmacy scholar is the son of a Suresnes pharmacist. Sixteen other scholarships (second to fifth years) are also awarded, but not a single son of a pharmacien is among them.

Illegal Competition.—A herbalist at Cosne, Mme. Canet, has been prosecuted and fined 20*l.* for the illegal practice of pharmacy. Various codex articles were found on her premises, and she said they were for her personal use, but it was proved that she had sold tincture of iodine, and offered capillary syrup, while an antipyrin bottle was marked "20 centimes." Nitrate of silver, citrate of iron, white precipitate, etc., were also found, but the tribunal refused to convict on these heads, holding that such articles might be for industrial and not for medicinal use.

Co-operative Pharmacy.—Judgment has been given in the action brought by the Syndicate of Pharmacists of the Seine against the Mutual Co-operative Society at Puteaux for illegal practice of pharmacy. Reference was made to the case in the *C. & D.* of January 5. The decision was in favour of the defendants, and reads as follows :

> The Mutual Society is within its legal right in establishing a branch (pharmacy) for mutual help, and the Society has not lost its character of mutuality in covering the risks of malady by means of giving gratuitous medical assistance, and in delivering medicaments at a minimum cost.

It is felt that this decision is a very important one for the future of French pharmacy, and it will certainly be appealed against.

The Struggle for Life.—A certain number of medical associations have circularised students of their districts who presented themselves in 1906 as candidates for the B.A. degree (which in France is the necessary preliminary to admission to the medical or other faculties of a university), pointing out the overcrowded state of the medical profession, and that "other liberal professions afford a wider, surer, and more fertile field" of action. A pharmacist asks if the pharmaceutical associations should not also use similar means to check the ingress of too-numerous candidates into the overcrowded ranks of pharmacy?

The "Father" of French Pharmacists is M. Navault, of Moulins-Engilbert (Nièvre). It is rumoured that he now intends to dispose of his business, which he has carried on for sixty-six years. He is ninety-two years of age, and passed his examinations at the Paris Superior School of Pharmacy in 1840, and still prepares his pills and potions without the aid of spectacles. His brother is still practising as a doctor at Arleuf, and is ninety-four. M. Navault's assistant, by the way, has only been with him for forty years, and is thus, comparatively, a mere débutant in the profession.

Doyen Cancer-treatment.—On Saturday, January 19, the hearing of the action brought by Mr. George Crocker against Dr. Doyen, for the recovery of a fee of 100,000f., was resumed. Me. Desjardins, counsel for the defence, argued that Dr. Doyen did not undertake to cure Mrs. Crocker of cancer, but expressed the hope of doing so. He could not be held responsible for the lady's death, as her husband caused the treatment to be stopped soon after it had commenced. The speech for the defence took up nearly the entire sitting of the Court, and will be continued next Saturday. There is an impression that Dr. Doyen may speak on his own behalf at the termination of his counsel's pleading. A point that Me. Chenu, counsel for Mr. Crocker, made a good deal of in his pleading was that the contract made by Dr. Doyen was illegal, because the serum he proposed to use is a secret remedy, and the sale of such being prohibited in France, the contract could therefore not hold good. As a matter of fact, the sale of serums is allowed in France, but under the condition that they are authorised by the Government and approved, in the first place, by a consulting committee and the Paris Academy of Medicine. Dr. Doyen does not possess the necessary authorisation for selling his serum, but this is one of the matters the French Government will have to take in hand when the Bill for the medicine stamp-duty becomes law.

Metric Abbreviations.—A circular signed by M. Aristide Briand, Member of Public Instruction, decrees that the following abbreviations shall be officially used in all French educational establishments during and after 1907 :—

Myriamètre, mm
Kilomètre, km.
Hectomètre, hm.
Décamètre, dcm.
Mètre, m.
Decimètre, dm.
Centimètre, cm.
Millimètre, mm.
Décastère, das.
Stère, s ou m^3.
Décistère, ds.
tonne, t.
Quintal métrique, q.
Kilogramme, kg.
Hectogramme, hg.
Décagramme, dag.
Gramme, g.
Décigramme, dg.
Centigramme, cg.
Milligramme, mg.
Kilolitre, kl.
Hectolitre, hl.
Décalitre, dal.
Litre, l.
Décilitre, dl.
Centilitre, cl.
Millilitre, ml.
Hectare, ha.
Are, a.
Centiare, ca ou m^2.

The Patent-medicine Tax.—One of the developments in connection with this matter has been the formation of a "Committee of Defence," which has held a public meeting to protest against the tax on pharmaceutical specialities and passed the following resolutions :

> The pharmacists assembled at the Hôtel des Sociétés Savantes, Paris, unanimously protest again the projected tax on pharmaceutical specialities, which, framed to fall on manufacturers, will really fall on retail pharmacists, and especially on patients.
>
> They unanimously protest against the intrusion of fiscal authorities in *officines* as depriving the pharmacists of the calm and independence necessary to the exercise of their delicate profession. They consequently declare that this tax is a tax on illness and a danger to the public health.

A committee of defence, composed of MM. Aureille, Barbe, Fayet, Dr. Legendre, Langrand, Dr. Madeuf, and Crépin-Palisse, was nominated. The committee has been formed on the initiative of Dr. Madeuf, who has already shown a good deal of zeal in other directions, including the formation of the League Against Sea-sickness.

PRICE-PROTECTION IN FRANCE.

It is now some thirteen years since the anti-cutting agreement scheme elaborated by the General Association of French Pharmacists was declined by the patent-medicine men because the Association had failed to collect the requisite number of signatures. Retailers, in their disappointment, threw out various dark hints about *spécialistes*, and some talked of invoking the Law of Germinal, and prosecuting the makers for dealing in what are "secret remedies." The more moderate party would not risk the pharmacists' hard-earned gains in such a Quixotic crusade.

Meanwhile the "Lorette" plan began to be talked about. M. Lorette is the advertising-agent of MM. Fumouze frères, and I have had a chat with a retailer about the plan. He said M. Fumouze is the leader of the movement, but several other important firms are in the effort.

"Has it been successful?" I asked.

"To a very large extent. It was started about ten or a dozen years ago, and I frankly consider it has benefited both the wholesaler and retailer. For the first year or two the premiums M. Lorette paid me amounted to about 6*l.*, and now they average 20*l.* per annum, although my general turnover is practically stationary. The principle is simplicity itself. I sign an agreement (1) not to sell the Lorette articles below the minimum price, and (2) not to push substitutes for them, but to supply if asked for. The minimum price is fixed by each manufacturer—it may be the marked price, or it may be 10 per cent. below marked price. Here is an article marked 3f. I buy it from Lorette, or, rather, from M. X——, the local 'depositor' of the combination, at 2f. 80c., and I sell it at 2f. 80c. I make out this duplicate slip of the sale, and every three months hand in my duplicates to the Lorette office, and I am then paid the 20 per cent. on my total sales, which is my profit."

"And these tales one hears about people who sell below minimum or substitute, and are left unmolested?"

"Personally, I do not believe them. I believe the system is honestly carried out, as far as possible. My only objection to it is that there is too much individuality about it. Suppose I joined it, for the one or two things I put up myself. The books of the combination would show just in what districts I do most business, and one of the big firms might say: 'Ah, here is M. B—— doing a large trade in his balsam or elixir in Such-and-such a part: let us tell our agent to push ours a little bit in that direction.' That is all I mean, little things of that kind. I think, as I said before, that the Lorette scheme is otherwise an excellent thing for both parties."

"Then it grows and grows."

"It grew and grew till two or three years ago; since then it seems to have 'marked time.'"

Here we were interrupted by a string of customers, and as my pharmaceutical friend's busy time was beginning, I took his hint of going to see M. Vaudin.

. . . .

M. Vaudin is the President of the General Association of French Pharmacists, and has a retail pharmacy in a handsome corner site on the "Boul' Mich'." He first asked me some questions about the P.A.T.A., what I supposed to be the amount of protected and unprotected goods yearly sold in English pharmacies, and so on. Then he said, "I can give you French statistics in round figures. Some twenty million francs (800,000*l.*) worth of proprietary medicines are supposed to be annually sold in this country. Of these, probably five or six millions' are in the Lorette combination, and possibly two or three millions' under various ticket systems. This gives us a rough comparison of about 40 per cent. protected, as against 60 per cent. of unprotected sales."

"And what are these new developments of the proprietary price-protecting scheme everyone is talking about?"

It was a long tale, and M. Vaudin patiently began at the beginning. The retail pharmacists as a body felt that they should be granted some control or supervision, some guarantee of the real and effectual punishment of offenders under the Lorette scheme; for it must be understood that if the pharmacist fails to fulfil his promise to protect prices, and sells below the minimum, the Lorette clearing-house can withhold the premium which is the pharmacists' profit; and he would thus (to use the example already cited) have paid 2f. 80c. net for the article he had sold, possibly, at 2f. 50c. The "premium group" (Lorette firms) agreed, and an Arbitration Committee was formed. This consists of four representatives of the "premium group," two members of the Council of the General Association, two other members of the same Association who are not councillors, and two members of the Paris Pharmacists' Association.

"So the pharmacists are in a majority," I remarked—"six altogether, as against four representatives of the wholesalers."

"Yes," replied M. Vaudin, "and you will understand why we insisted on this. Our Association embodies three-fifths of the total number of pharmacists in France. So, we said, we must logically form three-fifths of the committee."

The committee thus constituted worked well enough for some time. Several cutters were, by its vote, deprived of their premium, and some former sentences of the same kind were confirmed. But recently a new and curious incident occurred. The legality of the Lorette agreement was first questioned. Does it not constitute a ring or corner in goods, such as French law seeks to destroy? The syndicate of great commercial pharmacies, which represents the interests of the big retail cutting establishments, decided to raise the point. It did so, and carried the case up to the Court of Appeal, but was finally non-suited, not many months ago.

The syndicate then changed its line of action, and its representative approached the leading firms of the Loretto combine, and proposed that the legal hatchet should be buried, and asked the appointment of one representative on the Council of Arbitration, then the cutting-houses would handle Lorette goods and respect minimum prices.

The firms in question would hardly have been human had they not closed with an offer which thus promised them a new and important *clientèle*. The only point in their procedure which was criticised was that, instead of convoking the Arbitration Committee and presenting the syndicate's offer, they appear to have accepted the propositions on their own account, then informed the Committee of Arbitration that if they did not agree to the arrangement by a certain date the representatives of the Loretto premium group would withdraw. The retail pharmacists (represented by the General Association) felt a little hurt by this summary treatment, but made the best of a bad bargain, and practically agreed to receive the representative of the commercial pharmacies so long as the latter keep to their bargain.

And "there's the rub."

Australasian News.

The fullest information regarding the Australasian drug-trade and pharmacy is given in "The Chemist and Druggist of Australasia," copies of which can be obtained at 6d. each, post free, from the office of "The Chemist and Druggist," 42 Cannon Street, London, E.C.

Note.—"The Chemist and Druggist" is regularly supplied by order to all the members of the following, among other societies:

Central Pharmaceutical Association, N.Z.
Otago Pharmaceutical Association, N.Z.
Pharmaceutical Society of New South Wales.
Pharmaceutical Society of Queensland.
Pharmaceutical Society of South Australia.
Pharmaceutical Society of Tasmania.
Pharmaceutical Society of Western Australia.

Commonwealth.

Duty on Heroin and Dionin.—The "Commonwealth of Australia Gazette" for December 1, 1906, contains a Customs notice dated November 26, 1906, stating that the rate of duty leviable on dionin and heroin—which are both capable of being used as substitutes for opium—shall be the same as that imposed upon opium (viz., 30*s.* per lb.) on importation into the Australian Commonwealth.

New Zealand.

Importation of Opium.—Mr. Walter Howe Dawson, chemist, Auckland, was on November 28, 1906, charged with three offences in connection with the importation of some goods labelled "Pill mass, bismuth et opii." Mr. T. H. Hustwick, New Zealand Government Analyst, who is also a pharmacist, found that the sample contained opium with a very small proportion of foreign matter. It was in a form suitable for smoking. Defendant told him the opium compound was imported, made up to his own private formula, to be subsequently made into pills for an indigestion-cure. The formula was: Opium, 9 lb., bismuth, 1½ lb., taraxacum, ½ lb. Witness said he could not accept the explanation because the proportion of opium was abnormally large. If each pill were to contain a fair dose of opium the mass would make no fewer than 63,000 pills, far more than defendant or anybody else would be likely to require. The case was adjourned till December 10..

South Australia.

Enlarging the Society's Scope.—The Pharmaceutical Society of South Australia has been urged by the resolution of a meeting of chemists to enlarge its "objects" so as to include the business interests of chemists. The objects of the Society are

> to advance the science and art of pharmacy, to promote and maintain an educational system to that end, to protect the status and general interests of its members, and to arbitrate on all questions of usage in regard to their rights and privileges.

The Council considered that this includes the trade interests of its members, and accordingly appointed a Commercial Interests Committee.

Victoria.

Friendly Society's Pharmacy.—A Friendly Societies Bill, read a first time on December 12, 1906, in the Victorian Parliament, was retained by the Government as one of the measures which it would endeavour to pass before the close of the Session. Clause 7, as given below, deals with the relation of the dispensaries to the Medical Act, Part 3 (Pharmacy Act):

> Notwithstanding anything in any Act a registered society having for or including in its objects the dispensing of medicines to members, their husbands, wives, widows, children, or kindred may employ a registered pharmaceutical chemist to supply medicines or medical and surgical appliances (whether in consideration of contributions by such members to such society or to some other registered society or by sale).

Secret Commission.—The Secret Commissions Act, 1905, Victoria, has not been definitely enforced, but the Chief Secretary has specially detailed Detective Burvett to investigate all cases which may come or be brought under his notice. As all communications are to be treated by him as confidential, and he is to give prompt attention to all complaints, his hands are likely to be full. The memorandum issued on the subject specially mentions that the system of giving secret commissions is practised by professional and business people alike. The doctors get secret commissions from chemists, solicitors from trustees and liquidators, auctioneers from printers and others, the architects from contractors and merchants, etc. In each case the amount of the secret commission must come out of the pockets of the principal, and the spoil is divided among the persons who are trusted by him and from whom he has a right to expect and receive honest and honourable treatment. It is not suggested that this improper practice is rife in Victoria, but it does in some cases prevail, and is liable to grow. The memorandum then goes on to point out how very wide-reaching are the provisions of the Act, making everyone who has anything to do with the offering or receiving of a secret commission liable to punishment.

South African News.

(From the "C. & D." Correspondents.)

Note.—"The Chemist and Druggist" is regularly supplied by order to all the members of all the Pharmaceutical Societies in British South Africa, viz.:

South African Pharmaceutical Association.
Pharmaceutical Society of Cape Colony.
Natal Pharmaceutical Society.
Transvaal Pharmaceutical Society.
Rhodesia Pharmaceutical Society.
Northern District Chemists' Association.
Pharmaceutical Society of Orange River Colony.

Cape Colony.

Better Prospects.—Mr. J. W. Jagger, one of the authorities on trade in South Africa and a member of the Lower House, speaking at the annual banquet of the Western Province Commercial Travellers' Association, held at Cape Town last month, said the country commercially had "turned the corner," and that all were perfectly justified in expecting better days in the near future.

Christmas at the Cape.—The proverbial "oldest resident," writes our Cape Correspondent, has to hark far back to refresh his memory as to the exact year when cold winds and rain last appeared at the Cape at Christmas time. The morning of December 24, 1906, opened up cloudy. Towards mid-day the rain came down in a regular deluge, and chemists with their holiday goods began to think that from a business point of view the season was not going to be a very good one. Late in the afternoon, however, the rain ceased, and I gathered that the trade did not do so bad. Messrs. Lennon, Ltd., are in their new business home, but the finishing touches to both the outside and the inside of their fine premises are not yet completed. The windows and show-cases displayed a large and rich assortment of all lines incidental to Christmas and New Year trade in a pharmacy, and if there was nothing in the shape of perfumery, soaps, presentation-cases, shaving equipments, or toilet requisites that interested you, it is but a short walk through the pharmacy to the photographic department, where one of the largest and best stocks in the country is open to inspection. Messrs. Heynes, Mathew & Co. are located higher up Adderley Street, and in that firm's pharmacy is a large and varied stock of all the best makes of perfumery produced in France, Germany, England, and America; and, of course, high-grade soaps. Cut glass, silver-mounted atomisers, and silver toilet-requisites for the fair sex were not so much in evidence as on former occasions, but, nevertheless, a fine and rich lot was there to choose from. The drapings were in green and gold in the special window, these being the colours of the South African Footballers, and the football idea was further suggested by the display as a centrepiece of a miniature Rugby football and goal-posts, with streamers, the whole being surmounted by floral emblems of the countries contested. Quite apart and in a separate shop Messrs. Heynes, Mathew & Co. conduct a business incidental to the photographic trade, and above they recently opened a "Photographic Parlour," which is well worth a visit. All the latest lines and novelties are available as soon after they are marketed as the mail steamers can bring them out. Still higher up Cape Town's principal street is the pharmacy of Messrs. P. J. Petersen & Co., who also displayed the "Springboken" colours. Messrs. Petersen were showing the majority of the leading lines produced by the best British, Continental, and American firms. If anything this firm showed more English perfumery than on previous years. Ladies' and gentlemen's dressing-cases, manicure sets, cut-glassware, and silver goods, together with the flowers and dressings, made an interesting show. Seeing that there are about seventy chemists' shops in the Cape Peninsula, it follows that many more are worth a call; many more that make a special feature of catering for the season's trade, besides carrying at all times a well-assorted stock, and among them should be mentioned Messrs. Lennon, Ltd., Long Street, Cape Town; A. Cleghorn & Darroll, Cape Town; R. G. Darroll & Co., Wynberg; Mr. C. B. Collis, Claremont; and Mr. J. Sowden, Rondebosch. Mr. Collis made an excellent show of perfumes and soaps, particularly those made by Messrs. Colgate & Co., New York, and more than usual attention was drawn from the purchasing public of Claremont. Messrs. R. G. Darroll & Co., Wynberg, made no special display, but as this firm does a high-class trade, always carrying the best makes of everything pertaining to pharmacy, whether pharmaceutical products, holiday goods, or sundries, they have ample supplies on hand, no matter what the season of the year is. Our correspondent concludes his remarks by saying that pharmacy in South Africa is of quite as high an order as the average of the best home concerns, and he considers that the drug-stores out there are much better equipped and run on more businesslike lines than shops of the same class in the old country.

Transvaal.

The Christmas Holidays passed off very quietly in Johannesburg, so far as business is concerned, there being very little demand for perfumery and fancy goods.

Japanese Jottings.

(From the "C. & D." Correspondent.)

Dr. J. Takamini completed his lecturing tour in Japan and left Shimbashi for America on December 12, 1906.

Rubber Imports.—The imports of rubber into Japan are increasing annually. The value of the imports, according to a return by the Imperial Department of Agriculture, was 452,782 yen in 1899, 847,830 yen in 1902, and 1,921,535 yen in 1905.

A Mineral-water Combine.—Two of the largest makers of aërated waters in Japan have amalgamated, under the title of the "Imperial Japanese Mineral-water Company," with a capital of 600,000 yen. The intention is mainly to extend the export business in Japanese mineral-waters.

Naphtha in Saghalien.—With the occupation of part of the island of Saghalien by Japan its industrial resources now claim attention. Not the least important of these are the naphtha-deposits on the eastern shore of the island, recent analyses of which have yielded satisfactory results. The whole of the eastern Asiatic coast may be looked upon as potential markets for Saghalien naphtha; at present about 15 per cent. of the demand is supplied by Sumatra and some points in the Japanese archipelago, but Russia and America have the bulk of the business. Saghalien has splendid industrial prospects before it, mostly under Russian control, the island's chief wealth being fish, coal, timber, and naphtha.

The Central Depôt for the preparation and distribution of medical supplies to the Japanese Imperial Army is in the city of Tokyo. During the Russo-Japanese War the depôt did good work in keeping up supplies to the army at the front. It is estimated that no fewer than 667,800,000 pills of "sei-ro-gwan"—pills given to each soldier as a preventive of cold, fever, and dysentery—were sent out. The machinery used in the laboratory is of the latest type made in Germany. There are machines for making pills, powders, tablets, and liniments. One tablet-machine is capable of producing 13,000 tablets in eight hours, and the pill-machine makes 300,000 pills an hour with four men and three women in attendance. The head of the department is Mr. M. Hirayama, First Army Surgeon-Inspector, who learned his pharmacy in Germany.

Colonial and Foreign News.

The Servian Chemists' Union held its general meeting this year in Belgrade. The establishment of a technical school is contemplated, attendance at which shall be obligatory on every pharmacist during the last half-year of his practical training.

Recognition.—The authors of the "Commentary on the Swedish Pharmacopœia," Messrs. Bergh, Blomquist, Delphin, and Westling, have each received from the Swedish Medical Union a prize of honour of 1,000 kr. and the silver medal of the Union.

Prohibited Preservatives. —The Cuban "Gaceta Oficial" for December 11, 1906, contains a circular addressed to the administrators of the Custom-houses of the Republic stating that the importation of the milk-preservative known as "Preservalina," and of any other product destined for the preservation of alimentary substances, is prohibited.

Capsicin Plaster a Secret Remedy.—The new tariff regulations in Germany regarding so-called "secret" remedies will affect, among other things, Johnson's "capsicin plaster," which is taxed at the rate of 500m. per 100 kilos. and described as follows :

> The rectangular perforated medicinal plaster, some 21 centimetres long and 14 centimetres broad, which is known as Johnson's capsicin plaster, is made of 25 parts of capsicum fastigiatum resin, 5 parts of belladonna extract, 28 parts of caoutchouc, 14 parts of Burgundy pitch, 14 parts of olibanum, and 14 parts of orris-root; it is used as a remedy for rheumatism and such ills, and also for lung-weaknesses, asthma, etc. The plaster is wrapped up loosely in a paper which bears the trade-mark, directions for use, and testimonials; twenty-four of the plasters are packed in a cardboard box, which also bears the trade-mark. The ingredients are not given either on the plaster itself or on the paper cover, and it is considered a "secret remedy," and taxed accordingly.

A Credit Union, the "Apotekernes Kreditforening," has been established in Denmark for the purpose of giving assistance to those members who have received personal concessions for the maintenance of a chemist's shop. Only those who do not own businesses or owners holding personal concessions will be accepted as members. Borrowers are conjointly responsible.

Opium in Foochow.—Among articles imported into Foochow opium takes first place, being a third of the total value of imports. Of the foreign varieties, that coming from Benares is preferred by the well-to-do classes, it being three times as dear as the native product. The most inferior is the Persian, which differs little from the native growth. In 1906 as much as 3,301 piculs of foreign opium was imported into Foochow, which is but a trifle compared with the ever-growing local demand requisite to satisfy a population of 22,000,000, the balance being made up of opium imported from other provinces of China.

New Pharmacopœias.—The compilation of the second edition of the Hungarian Pharmacopœia has proceeded so far that the printing is to begin very shortly, and the new edition is expected to appear in March. One of the principal collaborators is Dr. Endre Deér, who is responsible for several chapters on methods of analysis and preparation.—The Finland Senate has decided on the preparation of a new Pharmacopœia, and has formed a Commission for this purpose. At a general meeting of representative pharmacists rules for practising chemists were proposed with reference to the regulation of hours for assistants, etc. The Assistants' Union has agreed to the proposals.

The New Austrian Prescription-tax has caused a general outcry in pharmaceutical circles in Austria, and on all sides apothekers are protesting against the big discount which must now be granted on prescriptions for members of sick-clubs and hospitals. In consequence of these protests, the Government has declared that the 50-per-cent. discount is only to be tried as an experiment. The tax is to remain in force for a year, and at the end of that time the Ministry will invite detailed reports as to the cost of the medicines which have been made up for sick-clubs from all those pharmacists who supply them, and from all the important clubs, in order that the tax may be regulated accordingly.

Legal Reports.

Trade Law.

Travellers' Agreements.—In the Court of Appeal on January 17, before Lords Justices Farwell and Buckley, an appeal was heard from a decision of Mr. Justice Neville's in the action Leetham and others *v.* Johnstone White, the appeal being instituted by the defendant. He had entered the service of one of a combination of flour-millers under an agreement by one clause of which he bound himself not to enter into the service of any other miller in the United Kingdom within five years of the expiration of his engagement. Within a few months he was discharged, and afterwards entered the service of another milling firm. His former employers thereupon instituted an action for an injunction, and the appellant contended that the restrictions imposed upon him by the agreement were contrary to law. Mr. Justice Neville granted the injunction, but their Lordships held that the agreement was against public policy, and allowed the appeal, with costs. Lord Justice Farwell, in giving judgment, pointed out that the defendant had entered the service of one only of the combination—viz., the Cleveland Flour Mills—whose business was confined to the counties of Northumberland, Durham, and York; it had no business in Scotland or in Wales. Regarded. therefore, as a contract for the protection of the business of the Cleveland Flour Mills, an area comprising the whole of the United Kingdom of Great Britain and Ireland was far too wide and void. His Lordship was further of opinion that the fact of these companies having a common management or interest in each other's businesses was not in point; a contract such as the plaintiffs contended this was was contrary to the principles upon which contracts or agreements in restraint of trade were allowed; they were only allowed for the protection of the particular business in which the man was or had been employed. A trader is entitled to protect the particular business in which the servant is employed by an agreement of this kind, but not other businesses in which the servant is not employed, although the trader has an interest in those other businesses. It is against public policy to allow a covenant in gross in restraint of trade. For instance, suppose a trader has a corn-business and also a furniture-business, and he engages a traveller to travel for him in the corn-business, and binds him not to engage in any other corn-business, he cannot also prevent the traveller from entering into competition with him in the furniture-business; such a covenant would be bad.

Pilcher *v.* Price & Co.—In May last the plaintiff, an oil and colour man, recovered in this action, heard in the Portsmouth County Court, 100*l.* damages, and costs, from the defendants, oil-manufacturers, Erith and London, in respect to 10 gals. of a linseed-oil substitute which they had purchased from one Fuller, wholesale and retail dealer, Portsmouth. The oil was used by a customer of plaintiff's (Cantle) for making paint, and as applied it did not dry. Plaintiff had to compensate his customer, and in turn sued the defendants and Fuller for the amount, but in the course of the hearing Fuller's name was dropped from the action on the ground that he was the agent of Price & Co. The defendants appealed from the judgment on eleven grounds, and the appeal was heard by Mr. Justice Darling and Mr. Justice Phillimore on January 18, when it was allowed, the judgment given in the County Court was set aside, and judgment entered for Messrs. Price & Co., with costs. In the course of his judgment, Mr. Justice Darling said the appeal must succeed on the ground that the County Court Judge had misdirected the jury in not directing them as to what in law constitutes the relationship of principal and agent or what is the difference between agent and seller of goods. The question really was whether Fuller was the agent of Price & Co. in this particular matter, and he thought there was no evidence to go to the jury of an agency on the part of Fuller to make a contract with Pilcher for the sale of oils as the agent of Price & Co. He did not, in fact, think Fuller was the agent of Price & Co. upon any occasion. The real truth of the matter was that Cantle was not damaged at all. He was not supplied with improper oil, but he applied it to work which was already in course of being completed. The paint did not dry satisfactorily, because of something which had occurred to the work before ever Price's oil was used at all.

High Court Cases.

In Regard to Syphons.

In the King's Bench Division on Monday, January 21, the case of Bull *v.* Geraut and others was down for trial before Mr. Justice Kennedy and a special jury, but, when the case was called on, it was stated by counsel that the parties had settled the action. The terms of settlement, however, were not mentioned. The action had reference to syphons.

A DENTIST'S DEREGISTRATION SEQUEL.

IN the Chancery Division on January 21 Mr. Justice Warrington resumed the hearing of the cases Clifford *v.* Timms and Clifford *v.* Phillips. The plaintiff, Mr. Isidore Clifford, was one of the four dentists of that surname whose names were removed from the Dentists' Register on May 24, 1906 (see *C. & D.*, 1906, I. 854), by the General Medical Council for infamous and disgraceful conduct in a professional respect, their offence being that as principal shareholders and the only directors of the American Dental Institute, Ltd., they advertised, employed unqualified assistants, and made allegations of superiority over and in depreciation of other practitioners. Mr. Isidore Clifford now sought from the Court a declaration that his partnership with Mr. Samuel Timms was not dissolved, and that a notice determining it was invalid. The partnership was formed in 1899, and it was mentioned that prior to that Mr. Clifford had befriended Mr. Timms as a boy, and given him his dental education. In June last, however, Mr. Timms served Mr. Clifford with a letter dissolving the partnership, on the ground of the General Medical Council's decision. Mr. Norton, K.C., on behalf of Mr. Timms, claimed that the decision of the Council was binding on his Lordship, but Mr. Terrell, K.C., for Mr. Clifford, submitted that it was not binding; further, that it could not be brought forward as evidence. The point to be determined was, he argued, what constitutes professional misconduct.—Dr. Donald MacAlister, President of the General Medical Council, who was called on behalf of the defence, cross-examined by Mr. H. Terrell, K.C., said the only evidence before the Council was the report of its Dental Committee. There was nothing before it which showed whether Mr. Clifford had ever attended any of the meetings of the directors of the American Dental Institute. It was then stated by several witnesses that the American Dental Institute employed unregistered assistants, who described themselves as doctors.—After hearing counsel, his Lordship intimated that he reserved judgment, which would also cover the case of Clifford *v.* Phillips, the basis of which was the same. He indicated that he saw nothing objectionable in the advertising or pamphlets complained of, or why dentists should not advertise.

DAMAGES FOR THE EXTRACTION OF A TOOTH.

IN the Court of Session on January 22, the Judges of the First Division disposed of an appeal against the decision given by Sheriff Boyd, in the Glasgow Sheriff Court, awarding John T. Gibson, engineer, 15*l.* damages and expenses against Waterhouse & Co., dental surgeons, Glasgow, on the ground that he had suffered in health and constitution owing to excessive loss of blood caused by the careless and negligent manner in which defenders' servant extracted one of his teeth. The circumstances of the case were fully reported in the *C. & D.* at the time, and for the initial steps in this appeal see *C. & D.* 1906, II. 889. Their Lordships now adhered to Sheriff Boyd's interlocutor, with expenses.

Lord Pearson, who gave the leading judgment, held that this was a question of fact which they had to consider, and there could be no doubt that it was proved that the tooth had been extracted and that the pursuer suffered during the whole of that day from hæmorrhage.

The Lord President, in his remarks, said the peculiarity in the case, which he confessed introduced an element of great difficulty into it, was that after the Judge of first instance disposed of the case it was quite clearly proved that the pursuer had in one matter committed perjury, and was tried and convicted for that offence. That to a great extent dislodged the Sheriff-Substitute's judgment, all the more so because he said he was impressed with the evidence of the pursuer upon the whole matter. But although on one point his evidence was not true, it was not necessary to come to the conclusion that everything he said was untrue. On the other hand, while it might be shown that he was influenced with a desire to enhance the sum of damages he was claiming—that he was led into trying to pervert the judgment of the Court of Justice in stating that he was in the employment of the Hozier Engineering Co.—it might be quite true that he had got the tooth extracted. If this had been a conspiracy between the pursuer and the other witnesses to defeat the ends of a Court of Justice, they would have sworn the same lies about being in the Hozier Engineering Co.; but they did not do that, and he was inclined to think they were speaking the truth.

Sale of Food and Drugs Acts.

SWEET NITRE.

AT Blackpool on January 21, Joseph Jackson, chemist and druggist, was summoned for selling sweet spirit of nitre which was not of the B.P. standard of strength. Mr. Jackson said the offence occurred through inadvertence. It was almost impossible in the retail business to keep the drug up to the mark, as when the bottle was repeatedly opened its strength evaporated. In future he would only sell it in sealed bottles, and the purchasers would have to pay 6*d.* for it instead of 2*d.* The case was dismissed on payment of costs and the analyst's fee.

POWDERED GENTIAN.

AT Oxted (Surrey) Police Court on January 21, William Jackson Snow, chemist and druggist, Caterham Valley, was summoned for selling adulterated ground gentian-root. Mr. Talbot Kyle, county inspector, who prosecuted, said doctors, he understood, used gentian as a cure for indigestion, and veterinary surgeons as a tonic for horses, dogs, and cattle. He had expected to receive a guarantee from Mr. Snow which, if it had proved satisfactory, would have stayed those proceedings.—Frederick Hampshire deposed to purchasing 6 oz. of the gentian from an assistant in the shop, and Mr. Kyle, giving evidence in the witness-box, said there was nothing upon the wrapper to indicate that it was a mixture. The certificate from Sir Thomas Stevenson stated there was 60 per cent. of ground gentian-root, and extraneous vegetable matter, probably olive-stones, to the extent of 40 per cent.—The Chairman: There is nothing on the certificate as to the constituents of the 40 per cent. It is a generic statement: vegetable matter, probably olive-stones. Is it usual for you to receive an analysis of so generic a nature without setting forth what such a large percentage as 40 per cent. contains?—Witness: I suppose he had a difficulty in determining its nature, and he came to the conclusion that it was olive-stones.—For the defendant Mr. Snow said there is no standard for powdered gentian, and as such it is not mentioned in the Pharmacopœia. Since receiving the summons he had been to the wholesale house (Messrs. Meggeson & Co.), a house the purity of whose drugs is never questioned. He had no warranty, as he did not think it necessary to ask for one, and he had never sold the powder for any other than veterinary purposes.—The Chairman (to the Inspector): How many cases of this kind have you had in the county of Surrey?—Mr. Kyle: This is the first.—Fined 10*s.*, 10*s.* 6*d.* costs, and 10*s.* 6*d.* analyst's fee.

County Court Cases.

TRADE CUSTOM *re* ACETIC ACID.

IN the City of London Court on Friday, January 18, before Judge Lumley Smith, K.C., Messrs. Reitmeyer & Co., 63 Crutched Friars, E.C., sued Messrs. Beresford & Co., wharfingers, 9 Mincing Lane, E.C., to recover the sum of 4*l.* 7*s.* 6*d.* for damage done to two carboys of acetic acid and for the return of money paid for sampling and discount. The case took up considerable time through argument by counsel (Mr. H. Strouts for the plaintiffs and Mr. Turner for defendants) and evidence by witnesses. The leading facts were that thirteen carboys of glacial acetic acid belonging to plaintiffs were lying at defendants' warehouse, and when they were by order delivered to plaintiffs two were leaking. The claim was in respect to the acid lost and 10 per cent. discount from the charges (paid under protest) which the plaintiffs claimed as having previously been allowed to them. The defence was that the leakage of the carboys was not due to negligence on defendants' part, but to the natural characteristics of the acid, which solidifies at 60° F., and in the process of liquefaction and solidification the carboys sometimes crack. As to the discount, it was stated that 10 per cent. is allowed only to "importers" (*i.e.*, persons who bring the goods to wharfingers by sea or land in the first instance). In this case the plaintiffs had bought from Messrs. Jenkin & Phillips (this being admitted as to part), so that they were not entitled to the discount. Evidence was given by Mr. Reitmeyer and Mr. H. Barnard (defendants' manager). Judge Lumley Smith, in giving judgment for the defendants, said negligence had not been proved, and the plaintiffs could not claim without. A wharfinger is not like a carrier, who is liable for all accidents. To hit a wharfinger it must be shown that he has been negligent and that the loss is due to misconduct. He was rather disposed to think that, if goods were found to be damaged, it lay on the wharfinger to show that he had taken proper care with them. If the carboys had been shunted about from one warehouse to another, the conclusion he would probably have come to was that they had probably got cracked in the process. But the evidence was that there had been no movement. The conclusion he had come to was, knowing the nature of the goods, that it was owing to the inherent character of the acid and the change of temperature that the damage was done. If the plaintiffs could have shown that there had been any negligence in not keeping the place properly ventilated or exposing the acid to unnecesary risks, they might have recovered. But it was not proved. Therefore the plaintiffs had failed to show that the defendants were liable for the damage to the carboys. With regard to the other things, he had no doubt that the defendants were perfectly right in saying that the allowances were not really discounts, but they were a kind of bonus that they paid to the importers because a ship might send their goods to one wharf or another, and therefore they were quite willing to allow something to the man who brought their goods. It was paid by way of a sort of commission, and when the goods were at the defendants' warehouse the fact that a man bought them and kept them there did not entitle him to the commission, because he had not introduced any goods. He was quite satisfied that the plaintiffs were not entitled to recover on any grounds, and judgment must be given for the defendants, with costs.

Mr. Turner asked for costs on the higher scale, on the ground of the importance of the case to the trade. They had had a great deal of trouble over the case.

Judge Lumley Smith : And you will get your comfort out of the ordinary costs. I cannot allow them on the higher scale. I have no doubt the trade will all join in paying the costs. (Laughter.) I will, however, certify for counsel's costs.

Selling Disinfectants.

In the City of London Court on Monday, January 21, before Judge Rentoul, K.C., Mr. Gordon C. Innes, 101 Leadenhall Street, E.C., now trading as the Camphylene Co., sued Mr. F. B. Fowler, of 108 Lebanon Road, Croydon, for 78*l*. 0*s*. 2*d*., money due in regard to the sale of disinfectants. Mr. J. N. Keshan, plaintiff's counsel, said the defendant was formerly in the service of the Flemings Oil and Chemical Co., Ltd. There was a debenture-holders' action, and, by an order of the Court of Chancery, there was an assignment of the book-debts to a receiver and manager, who was the plaintiff, who afterwards bought the business of the company. The plaintiff now sued on the assignment. The defendant was employed as a traveller by the company in March 1896 on terms that he was to have 27*s*. 6*d*. per week for salary and expenses and a commission of 10 per cent. In June 1900 that arrangement was altered by the defendant taking 30 per cent. on all orders for which full price could be obtained and 15 per cent. on others, his salary ceasing. He also agreed to a reduction or rebate of one-sixth of his commission, as he was indebted to the company for overdrawings. His service for the company ceased in December 1902. From beginning to end he was drawing in advance of his earnings, and he had owed the company 78*l*. for some years. The plaintiff now claimed it. The defendant gave his version of the matter, and after hearing evidence on both sides Judge Rentoul said that as the defendant had had all the accounts sent to him from time to time without making any complaint, he could not now require the whole accounts for over ten years to be opened up. There was no defence to the action at all. Judgment must therefore be given for the plaintiff for the sum claimed, with costs.

A New Pick-me-up.—Fifteen grains of lime lactate is recommended as an antidote to morning headache, after too much alcohol, alcohol producing slight œdema of tissues. So says Dr. A. H. Bampton in the "Lancet."

New Companies and Company News.

Tar Patents Solidifying and Distilling Co., Ltd. Capital 10,000*l*., in 1*l*. shares. Objects: To adopt an agreement with the Tar Patents Solidifying Syndicate, and to carry on the business of tar distillers or solidifiers, dealers in chemicals, etc.

Perfect Food Co., Ltd.—Capital 1,000*l*., in 1*l*. shares. Objects: To acquire the business carried on at 74 Stamford Street, Blackfriars Road, S.E., as the Perfect Food Co., to adopt an agreement with W. J. Wigg, W. Shurley, and J. Churchill, and to carry on the business of manufacturers of animal and poultry foods, medical, chemical, and other compounds, etc. Registered office, 74 Cheapside, E.C.

Universal Mirum Products, Ltd.—Capital 1,000*l*., in 1*l*. shares. Objects: To carry on the business of soap or soap-powder manufacturers, dealers in oils, ammonia and oleaginous and saponaceous substances, chemists, druggists, etc. No initial public issue. The first directors are J. Irwin and A. C. Weller. Qualification 25*l*. Remuneration 25*l*. each per annum. Registered office, 109 Victoria Street, S.W.

Great Britain Soap Co., Ltd.—Capital 50,000*l*., in 1*l*. shares. Objects: To carry on the business of manufacturers of household, toilet, hard and soft soaps, manufacturers, exporters, and importers of and dealers in soaps, dry soap powders, toilet-soap powders, linen and starch glazes, preservatives for ham, bacon, fish, butter, cream, and milk, washing-blues, commercial and throat borax, sanitary, tooth, bath, and custard powders, etc. The first directors are W. B. Rees (chairman), W. Thomas (managing director), and C. Harvey (to join the board after allotment). Registered office, 3 Dumfries Place, Cardiff.

Peat Products (Sphagnol), Ltd.—Capital 100*l*., in 1*l*. shares. Objects: To acquire the business carried on at 71A Great Russell Street, W.C., as the "Peat Products Co.," including the trade-marks and recipes for the manufacture of certain preparations and chemical substances used for agricultural, horticultural, veterinary and sanitary purposes, and prepared for use in medicine and pharmacy, and known as "Sphagnol Preparations," and to adopt an agreement with H. H. Kinlock. The first subscribers are: C. P. Maw, Benthall, Kenley, Surrey, C.A.; E. Roche, clerk; H. H. Kinlock, 71 Great Russell Street, W.C., gentleman; E. S. Garland, manufacturer; E. F. Townsend, clerk; P. A. Oclee, clerk; and F. J. Labbett, clerk. Registered office, 18 and 19 Queenhithe, Upper Thames Street, E.C.

The Amsterdam Quinine-factory is paying a dividend of 7 per cent. for 1906. The factory seceded from the Quinine Convention in January 1906.

"Sanitas" Co., Ltd.—The directors have declared the payment of a second interim dividend at the rate of 5 per cent. per annum for the year ending March 31, 1907, payable on and after February 1 next.

The Chemische Fabrik (vormals E. Schering), Berlin, has issued new capital to the extent of one million marks in ordinary shares. The proceeds are to be used for the establishment of a new factory in Russia.

Cerebos, Ltd.—The report for the year ended November 30, 1906, to be presented at the meeting at Newcastle-upon-Tyne on January 22, states that the net profit has been greater than in the previous year. Of the amount spent in developing business in new markets it is proposed that the sum of 3,534*l*. be carried to development and advertising (capital) account. The net profit for the year amounts to 13,165*l*., which, with 7,922*l*. brought forward from the last account, makes a total sum available of 21,087*l*. The directors recommend a dividend of 4 per cent., less income-tax. They also recommend that 4,501*l*. be written off development and advertising (capital) account, and that the balance of 6,985*l*. be carried forward.

Deed of Arrangement.

Agnew, John William Walden, Pharmaceutical Chemist, Carlisle Circus, Belfast.—Arrangement whereby petitioner is to vest all his estate and effects on John Lawther, Belfast, accountant, upon trust to realise same, but subject to the direction and control of the Court; the proceeds after deduction of all incidental costs and expenses to be distributed rateably among the respective creditors; said estate and effects to be realised within three months from confirmation of the proposal by the Court, or such extended time as the Court may allow; the deed vesting estate in said trustee to be approved of by the Court. Date of filing petition, November 28; date of confirmation order, January 14; filed January 16.

Failures.

Re R. McCausland, Chemist and Druggist, Whitehead, co. Antrim.—This case came before the Bankruptcy Judge at Belfast on January 21 for first composition meeting. Mr. J. M. Whitaker, B.L., said that the offer was 10*s.* in the pound payable in cash within a month. There was no opposition to the offer, which was passed.

Re Joseph Moseley, 439 Mile End Road, E., Spongemerchant.—This bankrupt, who failed in September 1898, applied last week to Mr. Registrar Brougham at the London Bankruptcy Court for an order of discharge. Mr. G. W. Chapman, Official Receiver, reported as offences (1) Insufficiency of assets to pay 10*s.* in the pound to the creditors; (2) imperfect bookkeeping; and (3) unjustifiable extravagance in living. His Honour upheld the report, and imposed a further suspension of two years.

Re David S. Thomson, Druggist, Clanbrassel Street, Dundalk.—The statement of affairs discloses liabilities amounting to 838*l.* 15*s.* 8*d.*, and the claims of preferential creditors 33*l.*, while the net assets are estimated to realise 272*l.* Messrs. Deckie Henry & Son, 41 Lower Sackville Street, Dublin, have, under date January 12, sent a circular to the creditors to the effect that "A statement of the debtor's affairs was submitted to a meeting held on January 11. Creditors present at the meeting stated that from personal observation the value placed on the stock was excessive; and as this item is practically the only realisable asset, it is by the assistance of friends that the debtor is able to make any offer at all to his creditors. The alternative is to wind up the estate in the Court of Bankruptcy; but this course would involve so much expense that little, if anything, would be left for dividend. Under these circumstances friends of the debtor authorised us to submit on the debtor's behalf a conditional offer of 5*s.* in the pound, payable forthwith in cash, on the condition, however, that the proposal is accepted by all the creditors on or before January 19. This offer was unanimously accepted by the creditors at the meeting, representing two-thirds of the entire liabilities. It is necessary that the arrangement be completed on or before January 19, as if the proposal is not then accepted by all the creditors it will be necessary for the debtor to put the matter into the Court of Bankruptcy, in consequence of pending proceedings on behalf of some of the creditors for recovery of their claims."

Gazette.

Partnerships Dissolved.

Bowdler, A. C., and Bickerdike, W. E., Oswaldtwistle, Lancashire, under the style of Bowdler & Bickerdike, manufacturing chemists.

The Bankruptcy Acts, 1883 and 1890.

Receiving Order.

Gibson, James Edward, Shepherd's Bush Green, lately Broadway, Hammersmith, London, W., pharmaceutical chemist.

Adjudication.

Shadwell, Harry Winstanley, Chertsey, late Weybridge, Surrey, medical practitioner.

Births.

Tinker.—At Jeppes Town, Johannesburg, Transvaal, on Christmas Day, 1906, the wife of Harold Tinker, chemist and druggist, Jeppes Town (formerly of Huddersfield, Yorks), of a daughter.

Yule.—At Highfield, Cowdenbeath, on January 14, the wife of Thomas Yule, chemist and druggist, of a son.

Marriages.

Brown—Watson.—At 249 Holburn Street, Aberdeen, on January 16, by the Rev. J. N. Cuthbert, Craigiebuckler, W. G. Brown, wholesale druggist, to Margaret McMillan, sixth daughter of the late Geo. Watson, Aberdeen.

Cambridge—Weatherup.—On January 15, at the Baptist Church, Great Victoria Street, Belfast, by Pastor Gunn, Robert Cambridge, registered druggist, Carrickfergus, to Mary, youngest daughter of the late James Weatherup, Carrickfergus.

Goldsworthy—Stamper.—At St. Mary Boltons, South Kensington, on January 17, George Henry Goldsworthy, chemist and druggist, of 192 Fulham Road, S.W., to Margaret, only child of the late Jacob Stamper and Mrs. Stamper, of Herne Bay.

Deaths.

Gudgen.—At Kimbolton, St. Neots, Hunts., on January 13, Mr. Alexander Gudgen, son of the late Mr. George Burnham Gudgen, chemist and druggist. Mr. A. J. Gudgen had carried on the business in High Street, Kimbolton, since the death of his father in 1894.

Laird.—At Duncreggan, Gilmore Place, Edinburgh, on January 18, Mr. George Hardie Laird, chemist and druggist, aged sixty-six. Mr. Laird was a native of Fraserburgh, and served his apprenticeship with the late Mr. George Burnet. He was afterwards for a short time with Mr. Mackay, Aberdeen, and then about 1860 he obtained a situation with Messrs. Duncan & Flockhart, Mr. James Mackenzie, now of Forrest Road, being his senior. About forty-two years ago Mr. Laird commenced business on his own account in Queensferry Street, succeeding Mr. Carmichael. There he had been ever since. Mr. Laird and Mr. James Mackenzie had been intimate friends since their D., F. & Co. days, and when the Chemists' and Druggists' Trade Association of Great Britain was formed both took an active part in it, and served together on the Council. Mr. Laird was for about six years a member of the old City Parochial Board of Edinburgh, and was convenor of the Medical Committee of the Board. He was the first President of the Edinburgh and District Trade Association. He has been for a number of years assisted by his son, Mr. J. C. Laird, who will continue the business. Among those at the funeral, which took place at Morningside Cemetery on Tuesday afternoon, were Mr. D. B. Dott, Mr. James Mackenzie, Mr. C. F. Henry, Mr. J. R. Hill, Mr. James Stott, Mr. Slater, and Mr. Milne (of Messrs. Duncan, Flockhart & Co.).

Nolan.—At Sterkfontein, Krugersdorp, Transvaal, on December 19, Augusta Mary, widow of the late Mr. William Nolan, chemist, aged sixty.

Robinson.—Mr. George Carr Robinson, chemist and druggist, Hull, died suddenly last week from paralysis. Mr. Robinson passed the Minor examination in 1873, and subsequently published papers on pharmaceutical subjects, but latterly he devoted himself entirely to analytical chemistry. He went to Hull in the 'eighties, and practised there, lecturing on science subjects, his classes forming the nucleus of the present Technical Schools. He had been a Fellow of the Chemical Society, of the Institute of Chemistry, and of the Edinburgh Royal Society. He was joined in partnership on the first of this month by Mr. F. E. Johnson, F.C.S.

Ulrich.—At Rotorua, New Zealand, on November 28, 1906, Mrs. A. W. Ulrich, from appendicitis. She was the wife of Mr. A. W. Ulrich, who was with Messrs. S. Maw, Son & Sons, Aldersgate Street, London, and eight years ago went out to New Zealand as traveller for Messrs. Sharland & Co.

Waide.—At Hunt House, Methley, on January 15, Mr. Arthur Wilkinson Waide, for a long period in business as a chemical manufacturer at Castleford, aged seventy-one.

Whitworth.—At Southport, on January 7, Mr. John Handley Whitworth, chemist and druggist, aged thirty-seven.

"Folia Therapeutica" is the title of a new quarterly journal relating to modern therapeutics and pharmacology for medical practitioners, of which we have received the first number. It is published at 1*s.* by Messrs. Bale, Sons & Danielsson, Ltd., Great Titchfield Street, London, W. Among the articles are contributions from Dr. Nestor Tirard on "The Scope of Digitalis, with Special Reference to Chronic Kidney-disease"; Dr. F. J. Wethered on "The Therapeutics of Heart-disease"; Professor C. A. Ewald on "The Treatment of Gastric Ulcer"; and Dr. M. Handfield-Jones on "Uterine Hæmorrhage Treated by Styptol." Abstracts of articles in foreign medical journals are also given.

Personalities.

MR. F. PILKINGTON SARGEANT, of the Leeds School of Pharmacy, is a candidate for the next election of the Leeds Guardians.

MR. JOHN MOORE, who has been in the employ of Mr. A. F. Corfe, pharmaceutical chemist, Maidstone, for six years, and is now leaving on account of his health, has been presented by his friends in the town with a Gladstone bag.

MISS ANNIE VICTORIA CLARKE, third daughter of Mr. R. Feaver Clarke, pharmaceutical chemist, Gravesend, has passed in the First Class of Group C (Mathematics) at the Cambridge Higher Local examinations. She also passed in Group B (Latin). This is the same clever young lady who passed in the First Division of the London Matriculation examination this time last year.

KING EDWARD THE FIRST has crept into our pages this week through the personality of Mr. William Little Pearce, chemist and druggist, Dorchester, who for eleven years has taken part annually in the carnival at Exeter. His "make-up" has on several occasions brought him prizes. The representation here reproduced was for the carnival last October. The robes were rich-ermined and gold-laced. Mr. Pearce, we feel sure, looked every inch a king, his long experience in such representations enabling him to bear the part well. A picture-postcard has been made from the photograph.

MR. C. F. LONGMORE, of Melbourne, is returning to Victoria by the *Ophir* on January 25. Mr. Longmore has been away from Australia about twelve months, six of which he has spent in England, gaining much valuable experience in both the wholesale and retail sides of London and provincial pharmacy, including store-trade. During his visit Mr. Longmore has represented his father's firm, Messrs. Francis Longmore & Co., one of the best-known firms of chemists in Melbourne.

MR. PHILIP FOALE ROWSELL, J.P., F.C.S., chemist and druggist, the new President of the Proprietary Articles Trade Association, is the proprietor of the old-established (1765) business of Messrs. Holman, Ham & Co., chemists, Exeter. He has taken a keen interest in the P.A.T.A. from the outset, and also in the Chemists' Defence Association, of which he is Chairman. Mr. Rowsell is a fluent speaker, having cultivated the art in Church work. He is an active member of the Methodist Church, Superintendent of the Sunday School at Exmouth, and preaches a good sermon when called upon. He is senior steward of the Exeter Circuit, and has recently been appointed a Justice of the Peace for the county of Devon on the recommendation of Lord Fortescue, the Lord Lieutenant. He is Chairman of the Exmouth Liberal Association and Treasurer for the Honiton Division.

AMONG the successful candidates at the recent final examination of the Institute of Chemistry was Mr. James D. Kettle, B.Sc.Lond., who was a student at the Metropolitan College of Chemistry and Pharmacy. Mr. Kettle was a pupil in Mr. Sage's analytical laboratory from 1894 to 1898, where he afterwards acted as assistant until he took his degree. For the past five years he has been engaged as senior assistant in the Davy-Faraday Research Laboratory of the Royal Institution. He is an expert in photographic matters, and is giving a lecture and demonstration on "Toned Lantern-slides by Development" at the Metropolitan next month.

THE "Alumni Report" of the Philadelphia College of Pharmacy devotes six pages to a reprint of an article from the "Philadelphia North American," entitled "Henry S. Wellcome's Mission to Make Africa Habitable." It refers chiefly to the Gordon Memorial College at Khartoum and the Wellcome Laboratory there, whose staff has recently joined in the study of sleeping-sickness and in the efforts to circumvent malaria by exterminating mosquitos. The article, which is a trifle florid, concludes thus:

> Although having resided so long in England, Mr. Wellcome has not lost a particle of his Americanism. He is a prominent figure at all gatherings of Americans in London. Many visitors to London have seen him at such gatherings—Thanksgiving dinners and Fourth of July celebrations—among the most enthusiastic sons of the United States.
>
> He is of a medium build, with a florid complexion and long drooping moustache. He is noted for his even, unexcitable temperament and his persistence in getting at facts that interest him.
>
> In his English establishment Mr. Wellcome has about 1,300 employés, and is immensely popular with them because of his interest in their welfare. His recreation homes and gardens for his men and women workers in the vicinity of London are widely known and are regarded as models.

Trade Notes.

OKOL.—The Sanitas Co., Ltd., inform us that they are now prepared to supply their disinfectant "Okol" of an improved make, and with a guaranteed relative germicidal efficiency of 22, as compared with carbolic acid.

THE CENTURY THERMAL BATH CABINET, LTD., give in our advertising-columns ten reasons why the Century thermal bath-cabinets will prove a profitable line—at least the first one is given, the other nine can be had for the asking.

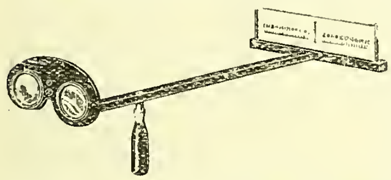
SHEM-EL-NESSIM is the new Arabian perfume which Messrs. J. Grossmith, Son & Co., Newgate Street, London, E.C., are making the novelty for 1907. It is obtainable in several forms which are indicated in an advertisement in this issue.

ELECTRICAL NOVELTIES.—A few weeks ago we referred to the special catalogue of electrical novelties brought out by Messrs. F. Darton & Co., Clerkenwell Optical Works, 142 St. John Street, London, E.C. We are reminded of this by the receipt of a spring edition of the list. It is really a new list, a rearrangement having been made and many new items added. Chemists can get a copy of the list by writing for it.

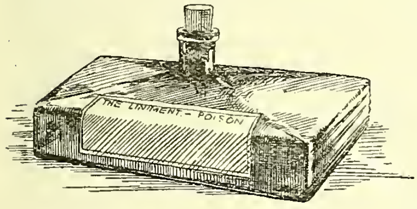
EXPORT LIST.—Messrs. C. J. Hewlett & Son, Charlotte Street, London, E.C., have issued a new edition of their list of surgical instruments and sundries. The list has a somewhat startling cover in peacock-green, the lettering being embossed in white. Nearly 200 large-sized pages are filled with prices, descriptions, and illustrations of surgical-instruments and surgical requisites, the final section being devoted to photographic goods. We are asked to intimate that any chemist abroad who has not received a copy can have one on making a request to the firm.

MAGNESIA EMULSION is the name which Messrs. Hearon, Squire & Francis, Ltd., 38 and 40 Southwark Street, London, S.E., have given to a preparation of magnesium hydroxide which they have been making for some time, and which recently has been highly commended by medical practitioners. Pharmaceutically it is a remarkable preparation, in that it has all the appearance of a tragacanth emulsion, yet it must be classed as an entire drug. The hydroxide appears to us to be in a colloidal state, which accounts for the fact that the preparation never separates.

Protected Proprietaries.—The additions to the P.A.T.A. protected price-list during January include Acraum, Bank's preparations, Curexema Blood-purifier, Eucalturp, Fellows' Syrup, Flewitt's Foot-rot lotion, Gibbs's C.C. Shaving-bowls, Grossmith's Shem-el-Nessim, etc., Hood's Sarsatabs and Anisen, Lyle's Red Cross Ointment and Velvix preparations.



Convergiometer.—This is an instrument which Messrs. Raphael, Wheway & Redfern, Ltd., 77 Clerkenwell Road, London, E.C., have introduced to estimate the convergence of the eyes in sight-testing. The apparatus is shown in the illustration. It finds particular use in testing presbyopic customers, where often the neglect to accommodate the lenses to the convergence causes considerable inconvenience to the wearer. The instrument is simple and inexpensive and one which chemist-opticians will find useful in routine work.



This Peculiar Bottle has been designed by Mr. George Walker, of Mill Hill, N.W., and he calls it the "Marwal Poison Bottle." The contents can be got out of the bottle just as readily as from conventional-shaped bottles, and although the "Marwal" is a little awkward to handle, this is one of the reasons for its existence. Mr. Walker has not yet placed the bottle on the market. The one submitted to us is a 4-oz. blue ribbed glass—the only size he has had made so far.

Warner Lines.—Messrs. W. R. Warner & Co., of Philadelphia, send us through their agents, Messrs. Francis Newbery & Sons, Ltd., Charterhouse Square, E.C., some typical examples of their products, packed in styles which are approved in the British markets. So far as popular medicines are concerned, it may be observed that the labelling shows full knowledge of the known, admitted, and approved remedies exemption. Brain and nerve tablets (sugar-coated), cascara-sagrada tablets (sugar-coated), little liver pills, and stomach and liver beans (gelatin-coated) are free from liability, and are put up in a tasteful manner. We presume bromo-soda (effervescing) may also come within the exemption, as its composition is declared. The sample size (with measure) retails at 1*s*. 5*d*. It is long since Messrs. Warner introduced their Tono Sumbul Elixir to the medical profession here; more recently they have added to this class of elegant galenicals an elixir of soda and lime glycerophosphates, which is pleasant to taste, and contains 8 grains of sodium glycerophosphate and 4 grains of calcium glycerophosphate in each fluid ounce.

A Number of Newbery Novelties come to us from Messrs. Francis Newbery & Sons, Ltd., Charterhouse Square, London, E.C., who in this twentieth century go ahead in the druggists' sundries line, much as their forebears did in the eighteenth century with proprietary medicines. The most striking novelty is a leather finger-stall, so made as to fit any size finger. It is provided with eyelet-holes and a lace—on the water-tight boots principle, so that it completely covers the finger, even if much swollen or wrapped in dressing. Messrs. Newbery tell us that it is an American invention, and their first consignment was quickly cleared out at 3*s*. 9*d*. a dozen, but more are coming along. Nowadays the public are getting dainty notions about nail-brushes; the demand has grown in a class who were wont to be ignorant of the use of nail-brushes, and they want a cheap and good thing. No. 1084 should please them: it is a six-row grey-bristle brush, in varnished wood back, nice to hold, and only 4*s*. 6*d*. a dozen. It is one of several lines which are selling well at present. A 6*d*. or 9*d*. pocket-inhaler (menthol) is an amber-glass tube enclosed in a neat nickel case. The "National" hygienic feeder is a white-flint glass o.f. bottle, with valved rubber cork, black rubber calves' teat, and brush all in a box for 4*s*. 6*d*. a dozen. Quite a marvel of cheapness is the new winter smelling-salts—a stoppered green-glass oval bottle, filled, capped, and labelled, 3*s*. per dozen; and it is equalled in value by the 1*d*. and 2*d*. tins of Chesebrough vaseline which the firm pack. Messrs. Newbery are also developing strongly in toilet-preparations. For the hair their eau de quinine and toilet paraffin, and for the mouth and teeth, their antiseptic dentifrice, violette de Parme tooth-powder, and areca nut tooth-paste are characteristic in quality and distinctive in style of packing; while the prices are moderate.

Arhovin and Pyrenol.—Arhovin is the name of a new gonocide for internal and external use introduced by Dr. Horowitz and placed on the market by Messrs. Goedecke & Co., of Leipzic. It is a by-product of diphenylamin and thymolbenzoic acid, and is mostly administered in gelatin capsules; it is also supplied in liquid form, bougies, and globules. The efficacy of the remedy has been thoroughly demonstrated in German medical circles, and in order to bring its merits before British medicos and chemists, Messrs. Reitmeyer & Co., 63 Crutched Friars, London, E.C. (the sole agents for Great Britain and the Colonies), are to distribute some 40,000 booklets. Arhovin is being well advertised in this country, and as it bears a handsome profit there is likely to be a good demand. Messrs. Reitmeyer & Co. have also taken up the sole agency for pyrenol, which has been found of great value in diseases of the respiratory organs, such as asthma, pneumonia, whooping-cough, influenza, etc. Pyrenol is a chemical compound of salicylic acid, benzoic acid, and thymol, prepared according to the formula of Dr. Horowitz, and occurs as a white crystalline, slightly hygroscopic powder of aromatic odour and sweetish taste. It is best administered in doses of 7½ to 15 grains, three to five times daily, in tablet form, but where necessary it may be given in solution or powder. Full particulars about these new remedies, which compare very favourably in price with other similar products, will be given by the agents on application. Mention may be made of the fact that muiracithin and catheterpurin, which have already been reported on in this journal, are meeting with a steadily increasing sale.

Scientific Progress.

Temperatures under this heading are on the Centigrade scale.

Theolactin.—A double salt of sodium-theobromine and sodium lactate is so called. It is a hygroscopic powder containing 57.6 per cent. of theobromine, and is given in doses of 15 grains every four hours as a diuretic.—*Apoth. Zeit.*, 1907, 48.

Aspirophen is a loose combination of acetyl-salicylic acid and amidoacet-para-phenetidin, and is used as an antipyretic and analgesic. Although placed on the market as a definite compound, examination indicates that it is a mixture in molecular proportions of salicylic acid and monoacetyl phenocoll.

Glucosides of the Jasmins.—Ventclesco has examined the glucosides extracted from several *Jasmineæ* ("Journ. de Phar.," 1906, ii. 532), and finds that that obtained from *J. nudiflorum* is syringin, having the following characters: Melting-point, 190°-192°; water of crystallisation, 4.61 per cent.; optical rotation, −17.38°. A second glucoside was detected, but not isolated in a state of purity. The same glucoside, having identical properties, was isolated from *J. fruticans*.

New Remedies.—The remedy sold as *fulgural* has been examined by German chemists, and is stated to be composed of senna-leaves, sassafras, guaiacum, peppermint, sarsaparilla, and various other common drugs. Kochs has also examined the two bodies sold under the names circulol and assanol. *Circulol* is stated to be a dilution of calomel, while *Assanol* is said to be a mixture of pilocarpine, morphine, dionine, and phosphate of codeine. *Foyenine* is formate of tetramethyl-ammonium, $(CH_3)_4N.OCOH$. It has a strong cardiac action, especially on the vaso-motor centres. *Blenal* is the carbonic ether of the alcoholic portions of sandalwood oil, known as santalol. Its empirical formula is $(C_{15}H_{23}O)_2CO$. It is an oily, tasteless, and nearly odourless liquid, and is used where sandalwood oil is indicated. *Zimphene* is sodium meta-oxycyanocinnamate. It is a yellow crystalline compound, melting at 224°. It is a powerful intestinal antiseptic.

The Winter Session of Chemists' Associations.

Association Presidents.

In dealing with Mr. John Percy Norwood, the President of the Barnsley Chemists' Association, we (as occasionally happens in these notes) come into contact with one of the oldest businesses in England, that founded at Wath-upon-Dearne more than a hundred years ago, by Mr. J. Bishop, who was succeeded in 1845 by Mr. Alan Hick, the first apprentice of the late Mr. Radley, Sheffield. Mr. Norwood purchased the business from Mr. Hick in 1904, about fifty-eight years after the latter took it over from the founder. We are reproducing elsewhere the opening announcement used by Mr. Hick. It is seldom that a business has only three owners in a century. Mr. Norwood was apprenticed, in 1886, to Mr. T. J. Hasselby, Ph.C., Doncaster, an old "Square" student and pharmacy medallist. The premises, which at that time occupied the most prominent position in Doncaster "Under the Clock," have since been demolished for street-improvements. For one week during the year (the celebrated September race-week) Mr. Hasselby and his staff enjoyed the distinction of doing a high-class West-end trade, the carnival of the North in those days not merely attracting, but retaining during the whole week, the cream of Society. After leaving Doncaster in 1891, Mr. Norwood went to a situation in Sheffield, where he attended the evening classes of the Sheffield Pharmaceutical and Chemical Society, which Dr. G. A. Grierson and Mr. John Humphrey inaugurated. Mr. Norwood secured the prizes for chemistry and botany, and the President's special prize for all subjects. After a course of study at the Sheffield College of Pharmacy, he passed the Minor in January 1903, and the Major in October 1903. Then he spent some three or four months with a veterinary surgeon, where he gained experience which has proved of great service in his agricultural business at Wath-upon-Dearne. He has been a member of the Barnsley Chemists' Association since its formation, and is also a member of the Sheffield Pharmaceutical and Chemical Society.

Mr. J. P Norwood.

Chemists' and Druggists' Society of Ireland.

A Meeting of the committee of this Society was held on January 17 at the offices, Waring Street, Belfast. The President (Mr. William Jamison, M.C.P.S.I.) occupied the chair. The business was purely routine.

Wolverhampton Chemists' Association.

A Meeting of this Association was held on January 16. There were present Messrs. Forster, Rothwell, Coleman, Stanway, Bowdler, Phillips, Barkes, and Warner. Mr. Phillips was in the chair. Letters of congratulation were ordered to be sent to Mr. J. Rymer Young (on his election as President of the Pharmaceutical Society) and to the President of the Association (Mr. F. J. Gibson) on his initiation as W.M. of St. Peter's Lodge of Freemasons.

A discussion on the Pharmacy Bills followed.

Huddersfield Chemists' Association.

At a meeting held on Tuesday, January 15, the President (Mr. R. C. Walshaw) discussed in detail the question of the desirability or otherwise of remaining members of the Federation of Local Pharmaceutical Associations and the possibility of more complete guidance of local Associations by the Pharmaceutical Society. He thought the Federation should confine itself almost exclusively to trade questions, giving support to the Pharmaceutical Society, when needed, with its political, Parliamentary and educational work. In his opinion the Federation should go farther, and, by associating itself with the National Chamber of Trades, bring its influence to bear upon matters of general tradesmen's interest, in which the chemist is as much concerned as any other tradesman—such matters as local assessment and rating, Poor-law management, railway rates, income-tax, and co-operative trading. After an interesting discussion, in which most of the members took part, a resolution was passed deciding to retain membership of the Federation, and approving of the new constitution and calling upon the Pharmaceutical Society to take action for a closer and more practical connection with the local Associations.—The President and Mr. Johnson were appointed a deputation to wait upon Mr. A. Sherwell, M.P. for Huddersfield; and Mr. Calvert, Mr. Stephen, and Mr. Hadfield were appointed a deputation to interview Sir James Kitson, M.P. for Colne Valley, in regard to the present position of pharmacy legislation.—A committee was appointed to make arrangements for a whist-drive on Wednesday, March 6.

Leeds Chemists' Association.

A Meeting of the members was held at the Grand Central Hotel, Leeds, on Thursday, January 17, Mr. W. D. Pollitt (President) in the chair.

The Place of Botany in Pharmacy.

Mr. William Wyatt lectured on this subject, advocating the study of the science by chemists in a different way from the method for examinations. His idea is that the study should be along a series of natural links, commencing from the basis of everyday knowledge of physical features and continuing with natural developments as the capacity of the student becomes enlarged. In his opinion it is a great mistake to commence the study of a science like botany from the biological point of view, inasmuch as the new student has not previously been trained to think in biological terms. Teachers should commence with some object which is obviously well known to everybody, and deal only with vernacular names. Acting upon this basis, he would begin with the leaf—a part of plant-life which yields so many drugs—and that organ be thoroughly explained in all its connections. Stem, root, and flower would be similarly studied. Then it would be well to take the whole of some great natural order typical of British flora, such as the buttercup series, and find as many examples as possible of them. That would give the student a good grasp of the fundamentals of botany. Nor should the history, folk-lore, and economic uses of plants be neglected, as they are of far greater importance than the purely scientific side. As the best text-book for a commencement he recommended Evans's "Botany for Beginners" (Macmillan & Co.), and as the chief botanical reference-book the later editions of "Bentley."

Mr. Wyatt was cordially thanked for his lecture.

Unprofitable Proprietaries.

It was announced that the Council of the Association had determined to approach the West Riding Federation of Chemists' Associations with a proposal for putting pressure upon the makers of certain proprietary articles which were declared not to be yielding at present a reasonable profit, with the object of getting them placed upon the P.A.T.A. list. The members endorsed this proposal.

Chemists' Assistants' Association.

The attendance at the meeting held at 73 Newman Street, London, W., on January 17, was greater than would have ordinarily been the case on the night succeeding the Chemists' Ball owing to the attraction of a lecture by Mr. J. Howell Evans, M.A., M.B., F.R.C.S., assistant-surgeon at the Cancer Hospital, on Some Points in

The Relation of the Chemist and the Practitioner,

in which he discussed sympathetically from the practical and to some extent also the ethical points of view the office of the prescribing chemist in first-aid. The best possible first-aid should be given, and he maintained that a chemist possessed of common-sense and a little more knowledge on these matters than the layman would be justified in doing so. The question is how much to give, and Mr. Evans's hints were of a limiting nature. With a foreign body in the eye the pain may be relieved with a little cocaine or cocaine and oil. It is so transient a mydriatic, he said later, that its use is perfectly justifiable. Sudden pain in the ear also needs temporary relief. Wax is very often the cause, but sometimes *otitis media*, a serious suppuration process. A drop of oil and tr. opii may relieve, but a leech behind the ear reduces the congestion. Paracentesis (tapping) or removal of wax are not matters for the chemist. Temporary relief may be given in the case of sore mouth by boracic acid to cleanse and harden the gums, but the patient should be watched and the chemist must exercise his common-sense, for, if accompanied by sore throat, it may be in a condition associated with diphtheria, tonsilitis, measles, or scarlet-fever, or, more serious, syphilis or cancer. It is important to be able to recognise these things. In all mouth-conditions the chemist is perfectly right in endeavouring to temporarily relieve pain and irritation by means of some slight anodyne or cleansing-solution—*e.g.*, 1 : 100 carbolic acid or weak potash-solution. He is justified in telling a mother, whose infant is troubled late at night with sore throat, to use a spray of alum and potassium chlorate solution. Progress is not retarded, local comfort is assisted, the difficulty temporised, and infection possibly avoided.

In regard to injuries, cases of head-damage are best kept lying down and untreated until the doctor arrives, for one never knows what may be the end of a head-injury or how soon it may be fatal. Injured arms may be supported by a three-tail bandage or splinting and then allowed to go. As to cuts and burns, very rarely can better treatment be obtained than in a chemist's shop because of the greater ease of getting there the materials required than in the doctor's surgery. In vomiting there is always the question of poisoning, and the vomit should never be thrown away until the cause is known, for it may be of great medico-legal importance. Vomiting may be evidence of appendicitis, rupture, peritonitis, extra-uterine pregnancy, or poisoning. A draught may be given of 8 or 10 oz., the volume of liquid assisting to remove an irritant or acting as a diluent in poisoning, when an emetic may be associated with it. Constipation may mean mere laziness or obstruction. Severe cases necessitate a thorough examination of the abdomen. Constipation may induce hæmorrhoids, but there are many causes. One patient came to him after suffering for three years from supposed piles and was then found to be in the last stages of cancer. Ung. galli c. opio is the accepted application, but it is anything but pleasant on a rawish surface.

Lumps, swellings, and tumours do not, Mr. Evans said, belong at all to the realm of the chemist; but there he may be one of the chief educators of the people in the early detection of cancer, as he has been in tuberculosis. At the Cancer Hospital they are keen on the education of the public, and chemists can be of the greatest assistance. The earliest cases of cancer they had received were three sent up by three chemists, and he wroto to them and thanked them for so doing. As he was talking to junior men, he would advise them when referring a patient to a doctor to write to that doctor saying so, and reciprocity might be expected.

An interesting discussion followed, the prevailing tone being one of pleased surprise at a doctor countenancing counter-prescribing. Mr. Clark thought the use of cocaine in eye-troubles somewhat dangerous, and recommended castor oil.—Mr. Lownsbrough said that the relation is a theory which does not exist in practice. The patient diagnoses his own case from patent-medicine literature, the doctor negatives the existence of such a relation, and the public suspect a working relation.—Messrs. Hirst, A. B. Cooper, C. T. Allen, and Albert Cooper also contributed.—Among other replies to questions Mr. Evans said that he prefers cocaine for general use, but eucaine is better in dentistry, and in hypodermic medication gives no precipitate.—An exceedingly hearty vote of thanks was given to Mr. Evans.

Liverpool Chemists' Association.

A Meeting was held at the Royal Institution on Thursday evening, January 17. The retiring President (Mr. Prosper H. Marsden, F.C.S.) occupied the chair for but a few moments to call on the new President, Mr. J. T. Hornblower, who took the chair amid applause. Messrs. A. S. Barr and Harry Lumb were elected members of the Association.—Mr. J. Shacklady referred to the fact of Mr. Harry Martin leaving Liverpool, the Association thus losing his services as Hon. Secretary. He had tendered his resignation to the Council, which they had accepted with regret. Mr. T. F. Abraham proposed that Mr. Martin should be elected an hon. member. This was seconded by Mr. P. H. Marsden, and carried unanimously.

Miscellaneous Communications.

Mr. Prosper H. Marsden showed a sample of the resin of the Aleppo pine (*Pinus halepensis*, Mill.), which had recently been presented to the Museum of Materia Medica of the University. The resin is somewhat like a cheap grade of mastic in colour, but in lumps, soft and plastic. It was packed in cases of the bark of the tree, about 3 in. long by 1 in. across, pinned together with small branches or chips. The resin has a tarry flavour. The specimen was given by Professor Bosanquet, who stated that the tree grows in Greece, and the resin is largely used in the East for the treatment of colds. References to the plant are given in the "Museum Report of the Pharmaceutical Society," 1903-4, and specimens are in the herbarium of the Society and the Hanbury herbarium.

The President asked if any member could give him information on the dose of gelsemium-root in powder. He had consulted various text-books, and found they all gave different doses, as much as 20 to 30 grains in one case down to 1 gram in the United States Dispensatory, and he considered the latter dose the most satisfactory. Messrs. T. F. Abraham, Dutton, and Marsden took part in the resulting discussion, and all stated that the usual preparation in this country is the official tincture, and the dose 5 to 15 minims.

The President then called on Mr. T. F. Percival to read a paper on

Chemists' Associations: What they Are, and what they are Not.

The author is a member of the Council of the Association, and spoke from five years' attendance at the meetings. The title indicated generalisation, but the bulk of Mr. Percival's observations were directed to the L.C.A., and his Spencerian style did not conceal his critical effort. Premising that the objects of association are Protection, Profit, and Pleasure, Mr. Percival indicated that recent correspondence and reports in our pages show that chemists' associations, with one or two brilliant exceptions, do not justify their existence. Why is this? In reply he said that associations are at their inception the product of a few enthusiasts who by co-operation seek to secure (for the community of their fellows, and not primarily for themselves) the three P.s aforesaid. As time goes on the difficulties which promoted the inception disappear, and those who have sought the Association's protection become apathetic. Some criticise and traduce, but never help; others join with an eye to the main chance, and various elements enter, all tending towards disintegration were it not for the residuum of a faithful few who, bound together by ties of altruistic or scientific interest, keep the thing from extinction. This, he said, is the condition of many chemists' associations to-day:

> Their conduct has then got into the hands of those who from their daily contact with pharmacy in its higher spheres of professional environment are practically untouched by the economic forces of commercialism. In such associations there is a contribution by the leading wholesale drug-houses of men who in many instances have equally distinguished themselves in the Rialto and in the laboratory: men of keen business acumen and high scientific intuition. These may be pharmacists first and wholesale druggists afterwards, but their sympathies with modern retail trading are very much a sentimental quantity.

Mr. Percival then amplified this reference to the diverse interests in associations from the gentlemen of Mayfair to East-end men; next he returned to consideration of the L.C.A., glancing lightly at its reputation for practicality and scientific endeavour, and appealed for consideration of those other things in the retail drug-trade which would be more likely to draw members from their warm firesides. He thought the Association's Council of twenty-one members is too large, and would reduce it to not more than fifteen. He also appealed for consideration of trade interests at the meetings, this being a prominent matter in the constitution, but a neglected one in fact. Summing up he said :

> Our organisation is too pretentious and unwieldy, too smothered in fly-blown phylacteries to be possessed of ideal activities. . . . This and other associations of its kind are suffering from the hypochondria of scientific neuritis; the bacillus of the disease is an attenuated culture of the Bloomsbury Square variety, and by common consent the antidote is a liberal administration of brotherly sympathy and efficient organisation.

The members present listened with attention to Mr. Percival's observations, and an occasional smile indicated their thoughts. A discussion followed, in which the President, Messrs. T. F. Abraham, Wallbridge, Dutton, Marsden, and Parry took part, and Mr. Percival having replied the proceedings terminated.

Festivities.

Social at Blackburn.

The members of the North-East Lancashire Chemists' Association and their friends held a social evening and dance on January 17 at Blackburn. The function was well attended and was most enjoyable. Messrs. Highton and Jepson acted as M.C.s. Mr. T. Swinburne (of Messrs. Allen & Hanburys) sang "Songs of Araby" and "Mary," while Mr. Hodson gave a fine rendering of "The Flight of Ages." During the interval refreshments were served, and afterwards dancing was kept up till 2 a.m.

Social at Bath.

On January 17 the annual social evening of the Bath Pharmaceutical Association took place in the Assembly Rooms. Mr. A. C. Olds acted as M.C. and Mr. and Mrs. Olds received the members and friends. The result of a whist-drive, the first item on the programme, was a tie for both the ladies' and gentlemen's prizes, but eventually Miss Glisson, Miss Britten, Mr. Sare, and Mr. Wharton secured the trophies. After supper, dancing was indulged in till a late hour. A vote of thanks was passed to Mr. Old and the committee for organising such an enjoyable evening. The committee consisted of Messrs. A. C. Olds, A. H. Cooper, L. Wilson, E. W. Loveless, J. G. H. Hawes, H. K. Pryke, J. W. Sampson, and W. J. Hallett.

The Annual Dinner

of Messrs. Baiss Bros. & Stevenson to their staff and friends was held at the City Tavern, St. Mary Axe, E.C., on January 18, Mr. Sydney S. Baiss presiding; Mr. Alec Boyes was in the vice-chair. After dinner there was an excellent concert, arranged by Messrs. Wells and Fifield, the stewards. The speeches were few, brief, and to the point. "The Firm" was proposed by the Vice-Chairman in a neat speech, and the Chairman and Mr. H. E. Stevenson responded. The toast of "The Visitors and Artists" brought to the conclusion a very enjoyable evening. We may add that the artists were Messrs. R. Tonking (pianist), Sam Briggs, Charles Conyers, C. Terry Holloway, F. G. Read, B. A. Nicoll, F. C. Furness, and Lindley Darby.

A South Coast Whist-drive.

In lieu of the usual monthly meeting of the Bournemouth Pharmaceutical Association a whist-drive was held on January 16, when members and their friends to the number of forty-two assembled at the Gervis Hall Restaurant. The play was under the direction of Mr. J. H. Seampton. At half-time an adjournment was made for refreshments, which were served in the adjoining buffet. The prize-winners were (1) Mr. R. Percy, (2) Mr. Geoffrey Fielden, (booby) Mr. Shelley Richards. Mr. F. E. Bilson (President) presented the prizes, and also proposed a vote of thanks to the M.C. (Mr. J. H. Seampton) and the Hon. Secretary (Mr. W. A. Bingham). Representatives of several wholesale houses were present, including Mr. G. Allen (Hodgkinson's), Mr. G. de Putron (Toogood's), and Mr. Geoffrey Fielden (Meggeson's).

Pharmaceutical Society of Great Britain.

NORTH BRITISH BRANCH.

An evening meeting was held at 36 York Place, Edinburgh, on Wednesday, January 23, when Mr. D. B. Dott, Ph.C , F.R.S.E., Chairman of the Executive, read three papers, abstracts of which are subjoined :

The Solubility of Salicin.

The solubility of salicin as given in the British Pharmacopœia (1 in 28 parts of water at 15° C.) seems to be correct. The U.S Pharmacopœia gives 1 in 21 of water at 25° C. Mr. Dott has determined the solubility of pure salicin, melting at 201.5° C., and finds it very nearly 1 in 24 parts of water at 25° C. The determinations were made (1) by adding water gradually from a burette to a weighed quantity of salicin in a stoppered bottle, the bottle being well shaken after each addition of water, and the whole being kept as near 25° C. as possible; (2) water at 25° C. was saturated by shaking with excess of salicin, filtering a portion, weighing the solution, evaporating to dryness, and weighing the salicin.

The Melting-point of Cotarnine.

Cotarnine is obtained by oxidising narcotine. The formula $C_{12}H_{13}NO_3,H_2O$ was ascribed to it by Matthiessen and Foster. The melting-point 100° C. is given by the older authorities. More recent books give 132° C. The author has prepared the base by oxidation with nitric acid and with manganese dioxide and sulphuric acid, purifying by recrystallisations from benzene. In both cases the cotarnine melted at about 125° C. with apparent decomposition. From other experiments it seems evident that if the base gets sufficient time it becomes anhydrous, undergoes partial decomposition, and melts even at 100° C. If this is so, the melting-point of cotarnine, when determined under ordinary conditions, is of little value as a criterion of purity.

Opium-assay.

In this third paper Mr. Dott spoke favourably of the B.P. method of assay. It leaves little to desire on the side of consistency of results when applied to the same sample, but it by no means follows that the results are quite true, neither does it follow that the degree of error is always the same. These facts are sometimes forgotten. When too large an amount of solution is taken for the proportion intended, as in one opium-assay process, there will be a constant error in excess, unless there is a corresponding error of deficiency at some other point in the process to balance. He asked them to consider the conditions arising in which a definite amount of water is added to a drug which contains a variable percentage of extract. This extract increases the volume of solution, and a fixed measured quantity is used for the assay. Quite evidently the variation in extractive will be a source of error in analysis, although the results may be perfectly constant in individual samples. If lime is added a further complication follows. There may be variation in the proportion of dissolved substance precipitated by the lime, so that the volume of liquid becomes altered from which the aliquot portion is taken for the assay; and when the lime forms insoluble or sparingly soluble salts (opium contains sulphuric and lactic acids) which take up water of hydration, the solution of opium-derivatives will thereby become concentrated, and the result of assay tend to be too high. Whatever may be the whole truth of the matter, he thought there is a consensus of opinion among the most experienced analysts that the lime-process for opium-assay and others, in which an aliquot portion of solution is taken for the analysis, are open to suspicion. When the solution, after adding the ammonium chloride, etc., is allowed to stand twenty-four hours instead of the orthodox twelve hours, the result of titration is always higher, sometimes considerably so. If the increase were wholly due to morphine, the fact would be an argument for a twenty-four hours' rest (as Ph. Jap. orders), but the addition is due at least partly to basic lime salt. Dr. Russell W. Moore, Chief of the U.S. Customs Laboratory, has written to Mr. Dott stating: "Our assays of opium are conducted entirely by the Squibb process. We do not regard the use of ammonium chloride as safe, and have encountered serious variations when it is used." Dr. J. H. Wainwright (formerly head of the same laboratory) agrees with Dr. Moore's opinions, and states that it was the discrepant results obtained by the lime-process which led him to abandon it. The Squibb process is official in the U.S.P., and gives good results, though it is quite possibly susceptible of improvement. It is a little tedious in actual practice, the filtering and washing of the impure precipitate occupying a considerable time; and there is nothing to prevent the precipitation of a small amount of basic salts should the conditions be favourable for their formation. The author obtained rather better results with his own process, which now consists in extracting 10 grams of the sample with dilute spirit, evaporating to about one-third volume, adding 0.1 gram of sodium salicylate, the same amount of ammonium oxalate, and dilute ammonia to nearly neutralise. After an hour, note that the solution is perceptibly acid, filter, wash, concentrate to 12 grams, transfer to a flask with 3 c.c. water and 5 c.c. spirit, add 50 c.c. ether (.720), and 3 c.c liquor ammoniæ, etc. The precipitate is washed with morphinated water previous to titration.

It may be said a process which is not quite satisfactory from a strictly scientific or even commercial point of view may be sufficiently accurate for the assay of pharmaceutical preparations. The official opium-process is readily carried out, does not require a great amount of experience or skill, gives concordant results, and is probably sufficiently near the truth for dosage purposes. One can therefore quite understand that it may not be proposed to alter the process materially in the next British Pharmacopœia. At the same time it seems desirable that any undoubted defects should be remedied. The proportions employed for the tincture and liquid extract give a result under the truth (as pointed out by Dowzard), while the proportions taken for the powder and solid extract give a high result, as shown by the author. The tincture solution with lime should be made up to probably 82 c.c., instead of the 85 c.c. ordered; while in the case of the assay of opium the amount of filtrate should be 102 c.c. (or thereby), and not 104. It is doubtful whether the loss in filtrate and washings is not over-estimated. A number of experiments were tried with B.P. filtrates, and also by adding weighed quantities of morphine to extract of gentian and some other extracts, and then assaying the preparations by the official opium-process. The loss of morphine appeared to be nearer 0.8 than 1.04. He suggested 0.9 at the most.

A report of the discussion and the proceedings generally is given in the Coloured Supplement.

Chemical Society.

A MEETING was held at Burlington House, W., on Thursday, January 17, Professor R. Meldola presiding. It was announced that in future, in order to make the library more accessible to fellows, it will remain open till 9 P.M. every Thursday, and until 10.30 P.M. on those Thursdays on which meetings are held. The first paper, dealing with the effect of

Unsaturation and Stereoisomerism.

on absorption spectra and optical rotation, was read by Mr. A. W. Stewart and showed that compounds such as optically active unsaturated derivatives of cinnamic acid exhibit no specific absorption bands, but merely general absorptive power for light, thus supporting Baly's view that the exhibition of absorption bands is due to the existence of secondary phenomena such as tautomerism and not to such a primary phenomenon as unsymmetrical molecular structure.

Optical Resolution of a Silicon Compound.

This the most generally interesting paper read during the evening was contributed by Professor F. S. Kipping. Starting with silicon tetrachloride, the author, by means of the Grignard reaction, replaced the four chlorine atoms in turn by benzyl, ethyl, propyl and phenyl groups, so producing an externally compensated hydrosilicon. This, on treatment with strong sulphuric acid, liberated benzene and formed *d.l.*-benzylethylpropylsilicoesulphonic acid, which was then converted into the *d.* hydrindamine salt, and this, on fractional crystallisation, separated into the *d.* hydrindamine salts of the *dextro* and *lævo* acids. Curiously enough, these two acids are not optically active, though their sodium salts are faintly so—($[\alpha]_{\mathrm{I}} = \pm 0.7°$). Professor Kipping finally proved that they were actually the optical isomerides by an ingenious permutation of "mixed melting points." Two papers were then read by Dr. Hewitt, the one describing a case of "steric hindrance" and the second

A New Mercuric Oxychloride

which was prepared in the course of an attempt to *precipitate* red mercuric oxide. For this purpose a solution of mercuric chloride was placed at the bottom of a tall, narrow cylinder; on this was carefully poured a "buffer" layer of brine, on which was laid a solution of caustic soda. As the latter penetrated downwards and gradually reached the layer of "sublimate" solution, a dense red crystalline precipitate separated which was at first mistaken for the red oxide sought, but on analysis proved to be an oxychloride. Under certain conditions a mixture of this with the red oxide was prepared, but the latter was never obtained pure in this manner. The last two papers were read by Dr. Mollwo Perkin, and related to the preparation of

Chromyl Chloride

in large quantities and to its utilisation in oxidising benzenoid hydrocarbons. The results described in the latter paper may possibly be of commercial importance, since the oxidation product in each case is the corresponding aldehyde; thus toluene yields benzaldehyde and the three xylenes the three possible toluic aldehydes, and so on. Unfortunately in some cases the yields are small.

The meeting then adjourned.

Fifty Years of Explosives.

THE first Friday evening discourse of the session at the Royal Institution, Albemarle Street, London, W., took place on January 18. Sir James Crichton-Browne was in the chair, and the theatre was practically full, although the discourse was not one with a fashionable ring about it. Among those present were Sir William Crookes, Sir James Dewar, Sir J. Wilson Swan, Sir Dyce Duckworth, Professor Silvanus Thompson, Professor J. J. Thomson, and Professor H. E. Armstrong. The title of the lecture was "Fifty Years of Explosives," and the lecturer, Sir Andrew Noble, is perhaps the most competent person in the United Kingdom to review the numerous explosives that have been devised and the changes that have taken place in the methods of testing. Sir Andrew Noble is between seventy and eighty years of age, and vice-chairman of the gun-making company, Sir W. G. Armstrong, Whitworth & Co., Ltd., with which he has been connected for many years. Sir Andrew has taken part in most of the Government Committees that have considered questions of gunnery and explosives for the last forty or fifty years. Behind the lecturer there were ranged lengthy tabulations of the factors obtained from testing explosives. One sheet gave the composition of a certain class of propellant in which "secret ingredient" was one of the items. Propellant was the term which the lecturer used in referring to many of the substances he had tested. It was in 1856 that, during a voyage to South Africa, Sir Andrew's attention was first called to the curious discrepancies between the views of the distinguished men who had written upon the motive force and pressure of gunpowder. This started the lecturer on his difficult and dangerous investigations, and he has within the last fifty years examined eighteen different explosives with a view to determining the changes that take place when they are fired under various pressures. Reference was made to the early workers, including Count Rumford, whose deductions were incorporated in the textbooks in use in Army training-schools down to 1870. The question of the pressure developed by gunpowder when fired was set at rest by experiments which Sir Andrew Noble made in conjunction with the late Sir Frederick Abel. This was determined as 42 lb. per square inch, or 6,500 atmospheres. As a result of the labours of the first Explosives Committee in 1860 attention was devoted to the scientific testing of service powders, which were found to vary as much as 25 per cent. in the total amount of energy developed. It appears that many of the failures of early rifles were due to defective powder, but so great has been the advance in the manufacture of rifles that now a bullet travels from the rifle at 16,000 to 17,000 ft. a second, an increase of over 300 f.s. Attention was then drawn to the diagrams representing the volumes of gas, units of heat developed, and potential energy developed of a number of explosives, from which it could be gathered that the modern propellant is about four times as energetic as gunpowder, which has held its own for so many years. He then described some experiments undertaken a few years before experiments began with nitro-cellulose and nitro-glycerine powders, to elucidate the question of the most effective use of the powders then employed in the service; and, acting on deductions from the results obtained, his firm at Elswick made 8-in. M.L. and B.L. guns, in which at a single bound the velocities at the same chamber pressures were raised from about 1,600 f.s. to about 2,100 f.s., while the energies developed were increased by about 75 per cent., causing an immediate reconstruction of both guns and mountings. From these powders, he said, he parted with regret; they belonged to the past, though he was not sure he could say the same of the amide powders. Turning to modern powders, he gave some account of the elaborate experiments he had carried out to ascertain the tensions of the gases of various explosives at the moment of explosion for all densities from 0.05 to 0.5, the variations in the proportions of the resultant gases with changes in the density of the explosive fired, the volume of permanent gases and aqueous vapour generated, the units of heat generated and the approximate temperature of explosion, the time of combustion under different pressures and with different dimensions of tubes, cords, etc., and the rapidity with which the explosives parted with their heat to the walls of the vessels in which they were fired. The apparatus employed was described, and he displayed some of the results graphically by means of curves thrown upon the screen.

In the experiments for testing the temperature of explosion the writer noticed a very ingenious device for estimating very high temperatures. This was the inclusion in the centre of a 6½-lb. mass of nitro-cellulose of some osmium. After the explosion the walls of the vessel were scraped and osmium found in the scrapings, proving that the osmium had been partly volatilised. As the melting-point of osmium is 2,500° C., it has been calculated that the volatilisation-point must be about 2,000° higher. Another explosion melted some electrically deposited carbon, as Sir William Crookes found in the scrapings what were undoubtedly diamonds; this would mean a temperature of 4,400° C. Sir Andrew concluded his lecture with the remark that the new propellants have added about 1,000 f.s. to the velocities and have doubled the energies of modern projectiles.

P.A.T.A. Council Meeting.

A MEETING of the newly elected Council of the Proprietary Articles Trade Association was held at Anderton's Hotel on January 17. The Secretary reported the result of the recent election. Mr. S. Kutnow had been elected to the vacancy in the

MANUFACTURERS' SECTION

created by the withdrawal of Messrs. A. J. White, Ltd., that Section being now constituted as follows:

Allen & Hanburys, Ltd., Bethnal Green, E.
Beetham & Son, chemists, Cheltenham.
Gosnell, John, & Co., Ltd., 213 Blackfriars Road, S.E.
Kutnow, S., & Co., 41 Farringdon Road, E.C.
Lambert, W., & Co., 47 Lime Grove, Uxbridge Road, W.
Newton, Chambers & Co., Ltd., Thorncliffe, Sheffield.
Powell, Thos, Ltd., 1 Albion Place, Blackfriars Bridge, S.E.
Scott & Bowne, Ltd., 10 and 11 Stonecutter Street.
Sanitas Co., Ltd., Locksley Street, Limehouse, E.
Umney, John (Wright, Layman & Umney), 48 Southwark Street, S.E.

A vote was taken in connection with the Wholesale Section, with the result that the ten retiring members were returned. They are as follows:

Barclay & Sons, Ltd., 95 Farringdon Street, E.C.
Burroughs, G. H. (John Thompson, Ltd.), 58 Hanover Street, Liverpool.
Edwards, W., & Son, 157 Queen Victoria Street, E.C.
Evans, Gadd & Co., Ltd., Fore Street, Exeter.
Hirst, Brooke & Hirst, Ltd., Leeds.
Newbery, F., & Sons, 27 Charterhouse Square, E.C.
Sanger, John, & Sons, 258 Euston Road, N.W.
Southall Bros. & Barclay, Birmingham.
Sutton, W., & Co., 76 Chiswell Street, E.C.
Woolley, James, Sons & Co., Manchester.

RETAILERS' SECTION.

Only the ten retiring retailers were nominated, so that no vote was taken, and the Section consists of the following:

Atkinson, J. G., 25 Westow Hill, Upper Norwood, S.E.
Barnes, W. R., 10 Terrace Road, Plaistow, E.
Bunker, C. J. G., York Street, Twickenham.
Clarke, R. Feaver, 21 High Street, Gravesend.
Colley, H. W., 253 Cleethorpes Road, Grimsby.
Nicholls, T., 99 Wick Road, South Hackney, N.E.
Pickard, S. N., Ossett, Yorks.
Pond, G. P., 68 Fleet Street, E.C.
Rowsell, P. F., F.C.S., 74 High Street, Exeter.
Sutherland, J. W., 127 Buchanan Street, Glasgow.

OFFICERS.

The following were elected for the ensuing year:

President: Mr. Phillip F. Rowsell, J.P. (Exeter).

Vice-Presidents: Messrs. R. J. Davis (Scott & Bowne), G. H. Burroughs (John Thompson, Ltd.), and R. Feaver Clarke (Gravesend).

Treasurer: Mr. A. Tebbutt (W. Sutton & Co.).

Members of the Executive Committee to comprise representatives of Messrs. W. Lambert & Co., Ltd., Thos. Powell, Ltd., Barclay & Sons, Ltd., W. Edwards & Son, W. R. Barnes, and C. J. G. Bunker.

The Therapeutical Society.

A MEETING of this Society was held at the Apothecaries' Hall, Blackfriars, London, E.C., on January 22, Dr. Brown (President) in the chair.

SOLUBLE CREOSOTE AND CANNABIS INDICA.—The first paper was by Dr. F. H. Bonnefin on a new method of rendering creosote and cannabis indica soluble. An interesting account was given of the theories of solution and the methods of getting insoluble substances in a miscible condition. Heat, by expanding the molecules of water, permits more molecules of a substance to creep in, and if the molecules are oiled, so to speak, the substances slip in better and become miscible. Dr. Bonnefin then handed round a 25-per-cent. solution of creosote and a 5-per-cent. solution of ext. cannab. indic. liq. and showed by experiments that these are soluble or miscible with water in all proportions. The creosote solution is made as follows:

Sodium salicylate solution (1-in-2)	2 parts
Concentrated infusion of quillaia	1 part
Creosote	1 part

SOME USEFUL DRUGS.—The title of the second paper by Dr. Bonnefin was "Short Notes on Certain Useful but Little-known Drugs," the drugs being cereus grandiflorus, echinacea angustifolia, and trifolium pratense. These were used in the form of liquid extract, the last-named being also in the form of syrup trifolium comp. (P., D. & Co.). The author gave some of the results obtained in his own practice during the last fifteen years.

The discussion which followed was mainly a denunciation of "quack remedies," and after this had gone on for some time Dr. Bonnefin quietly said that if the speakers had taken the trouble to read the labels on the bottles passed round the room they would see that there was no justification for such remarks. In reply to Professor Wild, who said cereus grandifolia is a useless drug, Dr. Bonnefin said his experience in actual practice had convinced him otherwise. Dr. Cushny asserted among other statements that the drugs mentioned had been dropped from the last United States Pharmacopœia as of no value—but nobody contradicted him.

TEACHING PHARMACEUTICS.—Professor D. B. Wild, of Manchester, then read a paper entitled "The Proper Scope of the Teaching of Materia Medica, Pharmacology, and Therapeutics in the Medical Curriculum." He thought that pharmacognosy should be dropped altogether from the medical course as there is a whole profession whose special business it is to recognise drugs. It should be relegated to pharmacists. Pharmaceutical chemistry should continue to be taught. It is the best safeguard against "the exploitation of the medical man by unscrupulous traders" and saves the profession from "servile preparations." Pharmaceutical chemistry is best studied at the beginning of the course. fifty hours spent on the British Pharmacopœia is sufficient training in that subject and pharmacy for a medical student. He advocated that this subject should be taught by medical men rather than pharmacists. The latter have great ability, but approach the subject from such a different standpoint to what a medical man does. He had heard lecturers spend a lot of time on how to overcome incompatibilities, when the time would have been better passed in teaching how to write a compatible prescription. Then again, it is interesting to a pharmacist to know how to detect false pareira-bark, but absolute waste of time to teach such details to a medical student. Another instance was one in which the detection of cotton-seed oil in olive oil took up the best part of a lecture.

The discussion brought out some curious revelations of the inability of recently qualified medical men to write prescriptions. One of the speakers said that the teaching of prescription-writing by pharmacists led to the retention of old and worn-out remedies. The curious thing was that this same speaker had, a little while before, denounced the new remedies which Dr. Bonnefin had brought forward.

An Influenza Specific.—Just as the Fellows were dispersing one of the members called attention to a remedy and prophylactic for influenza which he had found very effectual. It was in the form of capsules, each containing one grain of quinine sulphate and one minim of oil of cinnamon. The capsules, he added, were especially made for him by Messrs. Hewlett.

Poisoning Cases.

Belladonna Liniment.

As briefly reported in our issue of January 19, Mr. John Troutbeck concluded on January 17 his inquiry at the Westminster Coroner's Court concerning the death by belladonna-poisoning of Mary Elizabeth Morris (56), a widow, of Southolme Street, Battersea. The deceased was in the habit of taking laudanum, and sent a little girl to the shop of Mr. G. F. H. Bartlett, chemist and druggist, 38 Battersea Park Road, for a pennyworth of laudanum, and belladonna liniment was supplied in mistake, the woman's death taking place in St. George's Hospital thirty-two hours after taking it.

Mr. H. H. Curtis Bennett, barrister, appeared for Mr. Bartlett and his assistant, Christopher Joseph Silke.

Clara Annie Gibson, the deceased's landlady, having given evidence as to the effect of the dose.

Dr. Charles M. Flide, of 331 Queen's Road, Battersea, deposed that he had attended the deceased since December 19. When called on January 4 by an urgent message, he found the patient in bed, and on examining her suspected belladonna-poisoning. A tumbler contained a thick brown muddy fluid smelling of camphor, and he poured some of the liquid into a bottle. He also saw the little blue bottle (produced) on the table, and on smelling it found that it contained something other than laudanum. He took possession of both bottles, and subsequently handed them over to the Coroner's officer in the same condition. He formed the opinion that the symptoms suggested belladonna-poisoning. He injected apomorphine, strychnine, and morphine, and went between one and two o'clock to the shop of Mr. Bartlett. He was at dinner, but he saw Silke, and told him that he had sent out something instead of laudanum, and asked him what it was. He said he did not know anything about it. Later, he went back and saw Mr. Bartlett, and he discovered the mistake at once—liniment of belladonna. He said it had been put into the tincture-of-opium bottle by a boy in mistake, adding that the boy had no authority to do so, and that he had never done it before. In reply to questions by Mr. Curtis Bennett, witness said that he had known Mr. Bartlett for ten years and never knew of him making a mistake.

Mr. Ivor Back, house physician at St. George's Hospital, described deceased's symptoms when he saw her on the night of January 4. He was present at the *post-mortem* examination made by Dr. Trevor. He found bronchitis and hypertrophy and dilatation of the heart, especially on the right side, and the aortic valves were incompetent. The stomach was dilated, and contained much greenish fluid, and there were signs of chronic gastric catarrh, but none of an irritant poison. He considered death was due to heart-failure, probably owing to the fact that her heart, which was already weakened and which showed signs of disease and was typical of chronic alcoholism, was suddenly called upon to do an extra amount of work as the immediate result of the ingestion of belladonna.

Mr. Curtis Bennett then asked that Kate Dwyer be recalled, and he put questions to her as to the purchases of laudanum. Although Mr. Bartlett had not served her he was always there, and on the last occasion was close to the counter when Mr. Silke turned away to get the laudanum.

Christopher Joseph Silke, the assistant in question, was next called. He deposed that he had been with Mr. Bartlett since December 3, 1906, and came from Dublin, where he had been three years as dispenser with Dr. Smith, Parliament Street. He had passed the Preliminary examination of the Pharmaceutical Society of Ireland. He was examined at great length as to the circumstances of the sale in this case. He stated that he only served poisons when Mr. Bartlett was present, and was in the habit of calling his attention to a sale by touching him, and in this instance touched Mr. Bartlett's arm with the bottle after he had put the stuff into it from the tinct. opii bottle. Spirit of camphor, essence of peppermint, eucalyptus oil, and other things were on the shelf beside the laudanum, but no other poisons. The laudanum was in a 6-oz. round (produced) and lasted a long time ; he had not seen it filled during the six months he was in the place. He admitted familiarity with the Pharmacy Act, 1868, and the provisions of Section 17, and was minutely examined by the Coroner as to his way of selling medicines—*e.g.*, as to whether he smelled things. He was never in the habit of doing that, but took everything for granted if the bottle were labelled. In reply to Mr. Curtis Bennett, witness said Mr. Bartlett was always in the habit of filling up the poison-bottles. He gave the boy a piece of paper with the name of the poison on it, and the boy brought the bottle from the stock-cellar. Witness gave as the reason why he touched Mr. Bartlett with the bottle that the latter is very deaf.

Mrs. Eyles, recalled, stated that she did not see the assistant give the bottle to anyone to look at. Kate Dwyer, also recalled, said the same thing.

Mr. George Frederick Handel Bartlett was next called, it being arranged that his evidence should be repeated by the Coroner's officer. He deposed that when Dr. Flide called he told the assistant that a mistake had been made, and on examining the tr. opii shop bottle found that it smelt of camphor and methylated spirit. He ascertained that the bottle had been filled the night before by Kitchen, with whom he had a row about it when he saw how the mistake in filling had happened. He dismissed Kitchen. In reply to questions about the sale by Silke, witness declared that he saw him pour the liquid into the bottle, and he was touched on the arm. He was also asked by the Coroner about smelling the contents of the bottle, seeing that laudanum and belladonna liniment are so distinct from each other, and witness replied that "chemists do not generally smell every bottle they pour out of." Mr. Curtis Bennett interposed questions to show that in many cases smelling is not a test. Witness then corroborated what Silke had said as to his filling poison-bottles. He dismissed Kitchen because he made the mistake. As to Suter, he thought by speaking to him it would never occur again. He had been with him two and a half years.

This concluding the evidence, the Coroner asked Mr. Curtis Bennett whether there was any evidence of trade custom regarding the dispensing of poisons of this character? Mr. Curtis Bennett replied in the negative.

Coroner's Summing-up.

The Coroner, in addressing the jury, said the case was one of very considerable public importance. It was broadly this : A customer had gone to a chemist's shop and asked for a pennyworth of laudanum, and, instead of that, had been served with a certain kind of belladonna by mistake. In consequence of that mistake a death had occurred from belladonna-poisoning. That, of course, was a very serious matter, and required close and serious investigation. The sale of poisons had been regulated by Act of Parliament—the Pharmacy Act of 1868—and the reason for the passing of that Act was stated in the first words of the preamble of the statute. Having read this, the Coroner observed that it was evident that the safety of the public was the object of the passing of the Act. The first section of the Act provided restrictions with regard to the sale, and, as was well known, the schedule was divided into two portions, but the Act related to the whole section—whether the more dangerous poisons in the first schedule, or the less dangerous in the second. The two poisons mentioned in the course of that inquiry were included in the less dangerous part, but both poisons were mentioned in the schedule; therefore, it was illegal for any person who was not a registered chemist to sell such poisons. What was the real meaning of that section was discussed before a Divisional Court before the late Baron Pollock and Mr. Justice Hawkins in a case which, curiously enough, also arose in Battersea in 1889, and in which an unqualified assistant sold a poison. There was no suggestion, as in the present case, that the assistant was in any way attended or overlooked, but he sold the poison. There was a suit under the Act at the instance of the Pharmaceutical Society for a fine, and he was fined 5*l*. in the Wandsworth County Court. That was appealed against, and the case was argued by most eminent counsel, one of whom had since become Attorney-General and another a judge, the latter representing the Pharmaceutical Society. After due consideration, for the learned Judges took time to consider their decision, their Lordships said they refused to adopt the suggestion that great inconvenience and hardship would result if chemists were compelled to employ only qualified assistants. They added:

> The object of the Act, passed after every consideration, is to provide for the safety of the public, and distressing consequences have so frequently arisen from the sale of poisons by persons insufficiently acquainted with their baneful properties that the whole object of the Act would be frittered away, and the Act become a dead letter, were we to declare by our judgment that any unqualified assistant can lawfully and with impunity sell any of the poisons to which the Act refers, unless upon each occasion of such sale he acts under the personal supervision of a qualified employer. or a qualified assistant to such employer. By such personal supervision we mean not merely presence in the shop or room where the sale takes place, but actual personal supervision, so that every individual sale shall be so guarded by the precautions prescribed by the Act that the safety of every individual member of the public might be provided for so far as the law can accomplish that object.

That, continued the Coroner, ought to be known to every chemist practising, as it affected the conduct of his business. At the end of the judgment there was an important paragraph setting forth that for leaving an unqualified assistant in charge of poisons a chemist was not only liable to a civil action, but if a jury found that a death occurred through criminal, culpable negligence, he would not be relieved from a charge of manslaughter. The object of the Act, of course, was to prevent such an occurrence. In this case, if the sale took place actually and physically through the agency of an unqualified assistant, it would be their duty to say, first of all, whether in fact there was such personal superintendence on this occasion as to practically make it a sale by Mr. Bartlett—that was to say. that Mr Bartlett could not have done more if he had acted by himself.

The Coroner having reviewed the evidence in detail, informed the jury that they had to consider the conduct of several persons as to their responsibility before the law. He mentioned, in this connection, the boy Kitchen, Suter, Silke, and Mr. Bartlett, adding that the most serious case was that of Mr. Bartlett, and reminding them that Mr. Justice Hawkins said:

> If death ensued through such negligence as leaving an unqualified person in charge of poisons, he would not be exonerated from the responsibility of a charge of manslaughter, and it would be purely a matter for the jury. It must be much more than a mistake in judgment: something which showed gross neglect or recklessness, or something of that kind.

The Coroner also stated that the jury must not find that Mr. Bartlett had been criminally negligent unless they thought he was grossly and culpably negligent without any reasonable excuse, considering he was a chemist carrying on business and subject to the provisions of the Poisons Act, passed for the safety of the public.

A Juror: What is a qualified person?

The Coroner: A person registered under the Act. Mr. Bartlett is one. Speaking briefly, persons get on this register in consequence of authorised examinations—that is to say, they are examined in their practical knowledge of chemists' and druggists' work.

The Juror: Silke's examination was not sufficient?

The Coroner: Oh, no; he is not on the register.

The jury then retired, and, after a long interval, sent a note to the Coroner. They then came into court.

The Coroner: I understand you wish to know the difference between culpable negligence and criminal negligence?

The Foreman: Yes, sir.

The Coroner: One is morally wrong, and the other criminally wrong. Mr. Justice Hawkins laid it down that negligence must be of a criminal and culpable character, and in a case of a chemist who was tried for making a mistake through which death ensued it was explained by Mr. Justice Kennedy that the negligence had to be of a gross and scandalous nature—something more than a mistake in judgment, and something more than negligence which would make a man liable to pay damages in a civil action: it must be so gross as to be scandalous. You must gather from that language as best you can what it means. It must be something more than ordinary negligence. You must consider what the chemist's duties are, and if he has scandalously and grossly neglected his duty and so caused death, it would be manslaughter.

The jury again retired, and upon their return into court,

The Foreman said: We find that the death of Mary Elizabeth Morris was due to belladonna-poisoning, caused by the gross and culpable negligence of the chemist, Mr. Bartlett.

The Coroner: You mean that to be a criminal verdict?

The Foreman: Yes.

The Coroner: You wish to send Mr. Bartlett for trial for manslaughter?

The Foreman: Yes.

The Coroner: Then it is manslaughter by Mr. Bartlett. (To Mr. Curtis Bennett): This is obviously a case which must go for trial. I shall at once consider any application for bail.

Mr. Curtis Bennett: My client has been thirty years in business, ten years in this shop, and he has three shops.

The Coroner: As far as I understand the Coroners Act, it must be a surety.

Bail was at once forthcoming; but Mr. Bartlett was immediately arrested by the police, and conveyed to Battersea.

Police-court Proceedings.

On Friday, January 18, Mr. Bartlett, whose age was given as fifty-one, was charged before the Hon. John de Grey at the South-Western Police Court with manslaughter. Mr. Hanne appeared for the defence. Evidence of the arrest was given by Detective-Sergeant Golden Barrell, who said when he told Mr. Bartlett what he was arrested for he made no reply. Witness asked him if he understood what he had said, and he replied in the affirmative. When charged he made no reply.

Mr. Hanne: You say you asked him if he understood what you said. Was that on account of his very great deafness?—Yes.

The Magistrate ordered a remand until Saturday, January 26, Mr. Bartlett being again released on bail.

Other Fatalities.

Seven cases of death by poisoning have occurred since our last record. The misadventures by morphine-injection and by taking quinine-tablets are dealt with elsewhere in this issue. Spirit of salt was taken with suicidal intent by William Lockwood Jeacock (65), an Islington meat salesman.—Nurse Maggie Roberts, of the Carshalton Cottage Hospital, was reprimanded by the matron for some slight fault, and swallowed nearly 1 oz. of strychnine, dying within half-an-hour.—Joseph John James, of Stonehouse, Devon, poisoned himself with oxalic acid, and the same poison was taken with fatal effect by James Johnston, a farmer, at Pomeroy, co. Tyrone.—Robert Constable Teal (34), labourer, Hull, who had been arrested for being drunk and incapable, became ill on January 19, and was taken to the Hull Infirmary, where he expired, death being attributed to opium-poisoning. At the inquest, on January 21, an apprentice with Mr. Riley, chemist, Lowgate, said deceased bought a shillingsworth of opium, which he said he required for his mother. There was no laudanum in his possession when arrested, but there was some whisky in a bottle. The jury returned an open verdict and added that no blame attached to the chemist.

School-children's Spectacles.

THE annual report of the Medical Officer (Education) for the County of London (Dr. Jas. Kerr), which has just been circulated, refers at considerable length to the question of vision and glasses for children. The report states that the selection of children with defective visual acuity having been made, and cards of warning sent home, in a few cases teachers make it their business to follow this up, but in the majority of cases the facts are merely registered and no further action taken. Even when the teachers are anxious that the child's visual defects shall be corrected they have much to contend with. Parents dispute the fact of bad vision, or are indifferent, or make many excuses for delay. The mother cannot afford time for hospital. Sometimes glasses are obtained and not worn, especially in cases of hypermetropia, where improvement is not at once manifest; generally if broken the parents will not replace them, but the great fact is that when their children have been to hospital and have had glasses prescribed, many people are too poor to pay for them, reasons such as the following being given: "Father out of work two years, glasses 7*s.* 6*d.*"; "widow loses a day's work whenever girl goes to hospital, child now ordered glasses, 7*s.* 6*d.*"; "husband earns 27*s.* a week, rent is 8*s.*, eight children, and one ordered glasses, which will cost 7*s.* 6*d.*"; "the woman has five children. The two boys have broken their glasses which cost 7*s.* 6*d.* each. Her husband has 1*l.* a week and she earns 5*s.*," and so on. Again, cases are frequently seen of ridiculous corrections by bifocal lenses, and of children being made to wear spectacles quite unnecessarily. As, for instance, a boy, aged fourteen, was prescribed bifocal spectacles, which cost 15*s.* The glasses to be worn constantly were upper parts for distance, R and L plane, lower parts; for near use, R and L+1.0D spherical. But this boy could have been spared the constant wearing of glasses by prescribing R and L+1.0D spherical for near work only, and these could have been got anywhere for a half-crown. Another case seen in the same week was a deaf girl of eleven, who had extensive and old scarring of a permanent nature in both corneæ. Recently she had been prescribed bifocals, which cost 15*s.* These spectacles corresponded with what could be made out of the movements of the shadow-test, concave glasses for the right eye and convex for the left, but vision was $\frac{6}{36}$ with or without the spectacles, and she might have been spared buying such expensive and useless glasses, as in practice she simply looked over the top. Another boy seen a few days later wearing concave sphero-cylinders of between −2.0 and −3.0 D had to be told that they were likely to be harmful. They had been prescribed two years previously after three visits to the same ophthalmic out-patient room as the two previous cases. He made three more visits, and this time returned wearing convex lenses. On the day of writing this a young girl was seen who at the same place had been prescribed bifocals. The glasses were R and L upper distance −0.5D sph. −0.5 D.Cyl. and lower section for near work −0.5D Cyl. They cost 15*s.*, and she cannot manage to do home work when wearing them. A pair of simple cylinders for constant wear would have been as efficacious, caused her less disturbance in her work, and saved her parents 10*s.* More of such cases might be narrated to show that it is not on account of careful work or well-thought out prescriptions that patients' parents are so often asked to pay as much as 15*s.* for glasses which the child may break in a week while still unused to the care of spectacles. No hospital surgeon in London or elsewhere should habitually prescribe bifocal spectacles for children. It is an absurdity, showing a want of appreciation of the optical needs and physiological powers of children, as well as some ignorance of human nature. Accurate measurements of the refraction are a necessity, but approximate corrections are quite sufficient for elementary-school children, and rarely is it necessary to prescribe two pairs of spectacles or their equivalent. Even in hypermetropic astigmatism the young child should first be accustomed to distant glasses, and then scarcely ever will it be necessary to have increased spheres added. The class of child who attends hospital does not need fine corrections, and simple spheres or less frequently simple cylinders should do all that is wanted. Cases of squint—a very serious visual defect—are excepted from this generalisation. For spherical glasses, tough bridges are wanted to the frames, as otherwise the brittle frames are snapped in a week, and all the trouble has been expended in vain, as they are rarely replaced. On the other hand, cylinders must have strong and rigid frames. One or two children can be found in almost any school whose vision can be improved perhaps a couple of lines of the test-type by a little manipulation of the frames to bring the axes of the hospital spectacles' eyes into the same line and restore the cylinders to their correct axial positions. Having regard to the excessive cost of spectacles at hospital price and to the fact that the law does not yet empower the County Council to provide glasses, the members of the Special Schools Sub-Committee decided to form a voluntary association, of which Miss Susan Lawrence is Secretary. It is called "The Association for Providing Spectacles for Children in the London Elementary Schools." Where from family reasons any child with defective vision cannot obtain glasses, a prescription-card of this Association is given to the child by the head teacher. On attending hospital the child presents the card to the prescribing surgeon, and if he is willing to help it to get glasses, he fills in the card, which is then returned to the teacher, who sends it to the Chairman of Managers. The Chairman communicates with the optician to the Association, who, when sufficient children require glasses, attends the school and fits the frames. The glasses are the property of the Association, and are kept at school until paid for, unless the surgeon has ordered them for constant wear, when they are given at once. Most hospital surgeons are now aiding the work of this voluntary association. In some cases when this help is refused it means that the hospital work has been in vain, for the child cannot procure the glasses, and may have to go to another hospital, where it will be more charitably treated. The spectacles provided by the Association cost, for ordinary spherical lenses, 10*d.* a pair, as against the hospital prices three or four times as great; for cylinders or their combinations there is a correspondingly great reduction. These frames are good enough for the first pair for any child wearing spheres. Elaborate frames and glasses of costly construction are almost wasted on such children; to insist on their parents purchasing such, as a result of the hospital advice, is an injustice which to a great extent mars the charity for which the hospital exists. The refraction work done, almost necessarily under great difficulties and pressure in the ophthalmic out-patient rooms, has been frequently referred to by the oculists. It is neither entirely satisfactory to the hospital authorities nor to the patients, and would greatly relieve the charities if it could be elsewhere disposed of. For this reason, among others, public provision is desirable for the determination of refraction in elementary-school children with visual errors, and for its correction where necessary by providing spectacles of a suitable kind and at a reasonable cost.

Chemists' Calendars.

The Stoke Ferry Almanac and Postal Guide for 1907 is issued by Mr. Ernest L. Hinde, chemist, Stoke Ferry, Norfolk. Mr. Hinde gives a good deal of local information, including the baptisms and burials that have taken place at Stoke Ferry during 1906. There are good lists of domestic and veterinary medicines which show that Mr. Hinde is quite alive to the requirements of his neighbourhood.

The Welshpool Almanac for 1907 reaches us from the publisher, Mr. H. Payne, dispensing and agricultural chemist, 16 Broad Street, Welshpool. It is noticeable for the information given about the locality, and there is again a contribution to local history in a memoir of Sir Griffith Vaughan, of Garth. A short review of local events in the past year is an interesting if somewhat pessimistic feature of the almanac. Mr. Payne makes good use of the advertising-pages.

With a distinct odour of peppermint a beautiful wall-calendar reached us this week from Messrs. A. M. Todd Co., Ltd., Kalamazoo, Michigan, U.S.A. It takes the form of three cards, 17 by 12, tied together with pale-blue silk. Each card has in the centre a coloured picture of a fair woman, these reproductions of paintings being splendid examples of the lithographer's art. The calendar portion is, we must confess, subordinate to the pictures; but it is as well to be reminded that, although time flies, beauty always remains young.

Advertising Ideas.

A Chilblain Speciality.

By C. S. Ashton.

In The Chemist and Druggist, January 5, 1907, a good suggestion was made under this heading by one of your correspondents. "Y. Z." there advises chemists to utilise the information given in "Diseases and Remedies" concerning Professor Wright's cure for chilblains. One, at least, of his readers has put those ideas into practice. A fresh supply of calcium lactate was procured, weighed up into 20-grain powders, and distributed among suffering friends. Subsequent inquiries elicited the fact that highly beneficial results had been obtained. Experience had already shown that tamus was one of the best outward applications, and this was included in the treatment.

Handbills and labels were then printed, and a stock of the remedies got ready for sale. And then came the mild weather, at once putting a stop to the demand for chilblain-remedies. But the winter is young yet, and frost may be here again at any moment. [It *has* come, and with vigour.—Ed.]

Calcium lactate should be freshly prepared, as it becomes insoluble with age. The cost is trifling, only 2*s*. 6*d*. per lb., and one can well afford to give a dozen 20-grain powders for 1*s*., or two dozen for 1*s*. 9*d*. If not convenient to make tincture of black bryony (*Tamus communis*), it can be bought at 2*s*. 8*d*. per lb. It bears a good profit if put up in ½-oz. bottles with camel-hair brush, and retailed at 1*s*. The compound tar ointment recommended for "broken" chilblains is No. 19, p. 276, in "Pharmaceutical Formulas," Vol. II. It pays well at 1*s*. per ounce pot.

The formula is, approximately :

Hydrarg. ammon.	ʒss.
Liq. carb. deterg.	ʒj.
Lanolin.	ʒij.
Vaselin. ad	℥j.

The following is the printed matter which Mr. Ashton uses :

CHILBLAINS.

Cause.—This troublesome complaint is the source of considerable discomfort and suffering to a large number of victims every winter. The disposition to Chilblains appears to be hereditary, and is due to thinness of blood and defective circulation. The curative means to be adopted must therefore be directed towards remedying these conditions.

Treatment.—The system must be protected against cold by means of vigorous outdoor exercise, by warm clothing, and by friction of the body, both local and general. Double-lined gloves, woollen stockings, and thick loose boots should be adopted as soon as cold weather sets in. Extremes of temperaturs should be avoided, warm water used for washing, bed-socks worn at night, and bare feet not allowed to touch cold floors. A generous diet of nutritious food is very necessary, and this should be supplemented, especially in the case of children, by

Malt Extract and Cod-liver Oil.

Internal Remedy.—Experience has shown that the only effective internal remedies are those medicines which increase the density of the blood. The best of these is the

Calcium Powder

prescribed by Professor A. E. Wright, M.D. A dose should be taken three times daily for two days, and the treatment resumed, if necessary, after an interval of two or three days.

External Remedy.—The most successful drug for outward use is

Tamus Communis

—in fact, the late Dr. Ruddock went so far as to say that it was "an almost infallible cure for Unbroken Chilblains." It should be applied with a brush night and morning, after bathing the parts with warm water. When Chilblains have reached the ulcerative or "broken" condition, recourse must be had to ointments, the best for the purpose being

Compound Tar Ointment.

This is the wording of Mr. Ashton's handbill (7½ in. by 5 in.). The print in the original is 3¾ in. wide, and prices with name and address come in at the bottom. There is a generous white space under the side-headings.

CALCIUM CHILBLAIN POWDERS.

As prescribed by Professor A. E. Wright, M.D.

Take one powder after meals three times a day, in a little water or milk, for two days, then miss two days and resume if necessary. Children from ten to fifteen, half a powder; under ten, a quarter of a powder.

Paint the chilblains night and morning with *Tamus Communis*, unless they are broken, in which case use compound tar ointment.

This is the wording of a label measuring 3 in. by 1⅜ in.

TAMUS COMMUNIS CHILBLAIN CURE.

Dr. Ruddock writes: "*Tamus Communis* is an almost infallible cure for unbroken chilblains."

Directions.—Apply night and morning with a camel-hair brush. For broken chilblains use the compound tar ointment.

For External Use Only.

This label is printed in red ink, and is 2½ in. wide.

COMPOUND TAR OINTMENT.

For the relief and cure of eczema, pruritus, scurf, wounds, ulcers, broken chilblains, etc.

To be gently rubbed in, or applied on soft rag, night and morning.

"P.F." 276-19.

The last is the wording of a circular label.

Medical Gleanings.

Atoxyl in the Treatment of Sleeping-sickness.

Atoxyl (meta-arsenic anilide) was first suggested in 1905 by Drs. A. Breinl and J. L. Todd, of the Liverpool School of Tropical Medicine, as a cure for trypanosomiasis. Prior to their experiments sodium arseniate and liq. arsenicalis had been used with varying success by Laveran and others. Sleeping-sickness is now believed to be due to the trypanosomes getting into the cerebro-spinal fluid, and Professor Koch has been experimenting with atoxyl in the treatment of this always fatal disease. He has written enthusiastically of the success of the treatment, but as a fatal result of sleeping-sickness often does not ensue for two or three years, it is obviously too soon to say that a certain cure for the disease has been found, and the glowing paragraphs which have appeared in the Press are somewhat premature. This is the position taken up by the "British Medical Journal," January 19, and in the same issue Drs. Todd and Breinl give an account of the history and present position of the treatment. Koch gives the remedy subcutaneously in doses of 0.06 gram, gradually increased to 0.5 gram, keeping a sharp look-out for toxic symptoms, which frequently follow the larger dose. On account of this the treatment has frequently to be interrupted.

For Vomiting of Pregnancy.

Mentholis	gr. xvj.
S.V.R.	℥j.
Syr. aurantii ad	ʒij.

M.S.A.

A teaspoonful every two or three hours.

Trypsin, Papain, and Cancer.

In our issue of January 19 we gave an abstract of Dr. Morton's treatment of cancer by injections of trypsin and amylopsin, as reported in the "Medical Recorder" of New York. The "B.M.J." of the same date printed Dr. Morton's paper almost in full, and, commenting upon it, pointed out that destruction of the tumour by no means implies cure of the disease, and that there had not yet been time to form any definite opinion on this point. The article concludes by saying that

> The public need not have the slightest fear that the medical profession is not alive to the importance of the cancer question. Research is being organised more and more thoroughly every year, and investigators in different countries are striving with each other for the honour of a discovery that will deliver mankind from one of the worst of the many ills to which it is still a prey. Premature jubilation about questionable cures is offensive to professional ideas for the sound reasons that it tends to discredit scientific research and is detrimental to the public welfare.

In the same issue is an interesting article by Dr. C. W. Branch, of St. Vincent, giving the results of the injection of papain into malignant tumours. He uses 5 to 20 minims of a 1-in-5 emulsion, taking antiseptic precautions and using cocaine or ethyl chloride as a local anæsthetic. There is a considerable reaction with softening and ultimate disappearance of the tumours. Dr. Branch does not, however, commit himself to the opinion that a cure of the condition has been effected in any case, further time being required to watch the subsequent history. Our contemporary does not extend its Mortonic strictures to papain.

Observations and Reflections.

By Xrayser.

Topics to Talk About

at the counter are not easy to prescribe, and Mr. Ernest O. Rowland, who dealt with this part of a chemist's duty in his address to the Edinburgh Association, contrived to limit himself to generalities mostly of a negative character. But even then his advice took some risks. "Avoid the mere mechanical repetition of mechanical phrases," he said. But if you once encourage an assistant to venture beyond mechanical phrases, how are you going to pull him up if his native or cultivated loquacity should lead him into the forbidden fields of politics, literature, philosophy, or religion? Mr. Rowland appears to hold up R. L. Stevenson's comments on the weather as a model; but probably a cautious Scotchman would not care to buy his prussic acid from a young man who described the day as a meteorological purgatory. "Assistants should take an interest in every customer, and make them realise it," is another of Mr. Rowland's aphorisms, and it is perhaps more perilous than the hint about the weather comment. A judicious inquiry after the baby's progress may be safe occasionally, but I fancy the majority of customers only desire to be supplied with what they ask for with as little delay and as few words as possible, and would be rather inclined to resent being taken an interest in. But if a manual on conversation at the counter would be difficult to compile, one would have thought that

When Chemists Congregate

the flow of ideas would be free and abundant. There are so many subjects of common interest, so many grievances common to us all (and "words flow apace when we complain"), that scarcity of topics ought to be the last obstacle to a successful winter session. But it is impossible to refuse sympathy with the member of the North Staffordshire Association who complained that the consideration of the constitution of the Federation had been the subject provided for intellectual refreshment at the last three consecutive meetings. *Toujours perdrix*, verily. Why this precious Federation does not get itself constituted is not quite clear, but I should think a good many of us are getting tired of its gallant efforts to find a field of usefulness for itself. One man thinks it worth maintaining because it suggests subjects for discussion, among other reasons—another evidence, apparently, of pharmaceutical exhaustion. Does the Women's Pharmaceutical Association find any lack of topics to talk about, I wonder? Probably the late President of the Pharmaceutical Society has contributed somewhat to the prevailing lethargy. Always available, always sympathetic, always fluent, Mr. Robinson was taken as a stimulant by all the Associations, and now that they are to be deprived of him

The New President

of the Pharmaceutical Society ought to be a consolation to *blasés* Associations. His predecessor set the fashion of peripatetic oratory, and fulfilled his mission with an energy which presumably beats all records. His output of speeches in two and a half years would probably rival, at least in quantity, Mr. Bell's in ten and Mr. Carteighe's in fourteen years. The least that can be said in regard to Mr. Robinson's efforts is that he has notably stirred interest in the political affairs of pharmacy, even if he has not fully satisfied that interest; and it does not need the pen of a flatterer to add that wherever he has appeared he has scored a personal success. But it is not unjust criticism to say that Mr. Robinson has delivered his message, or that the conscientious student of his speeches has come to recognise resemblances in them. Here, then, is the new President's chance. Mr. Young has a nimble mind and the art of incisive speech; an intimate acquaintance with the condition of the trade, and with the administrative work of the Society, both of which he now represents. It has been said that he will find it difficult to follow the late President. It is to be hoped he will not try to do so. We want new ideas, whether we agree with them or not, not grooves; occasional probings and, if necessary, whippings; and these I judge the new President is quite capable of administering unless that chain of office should too much fetter him. It is perhaps too much to ask that the past, present, and prospective virtues of "this great Society" should be allowed to speak for themselves for awhile.

One More Word

about Association meetings. Setting aside for the moment the practical papers on the work of pharmacy which are still read in a few places, but which now go more frequently to journals which pay for them, it may surely be doubted whether local Associations make the most of their influence. There is no reason at all to ignore bread-and-butter subjects, nor why a prominent representative should not be asked occasionally to report progress from headquarters. But it is doubtful whether there is not rather too much introspection; whether, in fact, chemists' associations are not confining their attention a little too much to a narrow and unproductive range of subjects. After all, the great man from Bloomsbury only tells them what most of them know quite well; and if he thunders against the wickedness of company competition, the company shops are open next morning at the usual hour. But there are fertile adjacent fields almost ignored. The far too modest wholesale druggists or manufacturers of chemicals or druggists' goods could tell retail pharmacists wonderfully interesting stories; public analysts and medical officers of health might be pressed into service; dentists and veterinarians would sometimes help; a discussion on prescriptions with local doctors might occasionally be brought off; and if agriculturists, lawyers, bankers, or accountants were invited to help on special occasions they would not all hold aloof. From any of these intelligent pharmacists would often get hints of real value, and in any case would secure a little desirable variation in the current of their thoughts.

Other Words of Pharmaceutical Interest

in the latest part of the Oxford Dictionary besides metal (already dealt with) are *Metheglin*, which is of Welsh origin and described a medicated mead; meddig being (as is obvious when we are told) merely the Welsh for medical, and llyn meaning liquor or water. *Methyl* is a back formation by Regnault in 1840 from the term "methylene," which Dumas and Peligot coined in 1835 to designate the hypothetical radical, CH_2, of a series of hydrocarbons analogous to the ethylic series. The word was compounded from the Greek methu, wine, and ule, wood, with ene to represent the radical; "vin ou liqueur spiriteuse du bois," as was explained by the authors. *Mezereon* is the Arabic mazaryun. *Microbe*, invented by Sedillot in 1878 to indicate small life, would mean strictly in Greek (says the Dictionary) short-lived. Mimosa, the name applied to the genus to which the sensitive plant belongs, was apparently given in allusion to the "mimicry" of conscious life which that plant exhibits. The word *Minim*, appropriated to the smallest (minimus) measure, was first employed as a musical term. In ancient music the minim was the note of the shortest duration; the nota minima. The *Mints*, or plants, of the mentha genus are not linguistically related to the mint where money is coined. This comes from Moneta, one of the names of Juno, in whose temple the minting was performed. *Mirbane*, the artificial essence of almonds (nitro-benzol), which appeared so entitled in 1857, is apparently a name without a meaning.

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Editorial Comments.

Winter Reflections.

In "The Private Papers of Henry Rycroft" that gifted writer, the late George Gissing, declares that "human beings may ere long take their nourishment in the form of pills." A less artistic writer might have given the thought a different galenic expression, but it would still have kept us within the area which this Winter Issue covers, the area of the business life of the chemist and druggist. In these issues our purpose is to give to our readers a seasonal presentation of all that we know to be helpful in the objects of their lives. We recognise that the calling which we represent is something more than mere trading, and that it comes a little short of that status which entitles men to a uniform professional fee. But the guinea and six-and-eightpence persons who hover on the horizon have their spirits frequently chastened by rarity of accomplishment, whereas the chemist and druggist is one who serves the public hourly, and one to whom the public looks for service in all manners of things which are expressed "in the form of pills." Traditionally, the retail chemist is one who helps the public to solve difficulties; actually he does so, and the facts seem to indicate that this accomplishment will remain an unprofitable extra. His nourishment is "in the form of pills." To this extent Gissing was certainly correct, that is, if we read "pills" symbolically, since the stock a retail chemist handles occurs in many other than the pilular form. But the reflection suffices to show the intention of such an issue of The Chemist and Druggist as this: it is to stimulate those who get it to fresh endeavour in their business, to enhance their knowledge of the craft to which they belong, to assist them in enlarging their profits. This may be a somewhat academic manner of expressing prosaic truths, but we do not forget that we address a class of men who are the most highly educated among traders, and who can appreciate reflections of this nature. Since the ideal conditions of pharmaceutical practice do not exist among us, or any other nation, we must take such conditions as there are and make the best of them. This issue reflects these in an unusual manner, since nearly half of it is contributed by men within the ranks of the craft, the rest comprising the happenings in our midst during the past seven days. On the practical and scientific sides there is sufficient to show that the spirit of research is by no means suppressed by the wave of commercialism that flows over pharmacy, which, indeed, is characteristic of the age. There is no reason why this spirit should become dormant; it is inherent among pharmacists, and, if modern methods of business have narrowed the number imbued with it, the rest recognise that the men set apart for such work should be placed beyond the disturbing elements of commercialism, and so give us better results. Another characteristic is, however, apparent from this issue—namely, a growing disposition among retail chemists to give greater attention to business matters. This is partly the result of specialisation in the more technical problems of the craft. Few are gifted with the faculties which can elucidate in both departments, and we think it is coming to be recognised that the man who can help in making the business side of pharmacy better does service to his fellows which is as well worth consideration as results from crucibles and test-tubes. Neither class is justified in despising the other; both work for the common good, the business man with perhaps a keener eye to immediate profits. Hence we have confidence in asking our readers to regard this issue of The Chemist and Druggist as one which is designed to make business more profitable for them. If they take it from the holly-strewed cover on the front to the "form of pills" on the back, they will find within much which should stimulate their trade. Hundreds of business houses offer new channels of effort, fresh additions to profits, but none can get the benefits offered unless they respond to the invitations, and this response we advise according to the circumstances of each case. In these days of rapid dissemination of knowledge there is nothing so quick in letting buyers know as advertising, and those who respond most expeditiously get the cream of new business and the first fruits of fresh ideas.

Homœopathic Chemist.

Dr. George Burford, in a recent issue of the "Monthly Homœopathic Review," makes the following statement:

> *Eight homœopathic pharmacies in London alone have closed their doors within the last few years.* Let not the enemy blaspheme—this is no obvious proof of the waning prospects of homœopathy in this city; collateral evidence, fortunately, is dead against that. With the proximate causes of this untoward occurrence we must leave the chemists themselves to deal. What it does betoken is that touch has been lost in some way between the homœopathic chemists, who are lessening, and the homœopathic laity, which is increasing. Possibly there may be some lack of adaptation, some British rigidity of method, in countering the increasing Americanisation of old-school domestic practice, tabloidian and other, so familiar on this side of the herring-pond. But the fault is not all on the side of the chemists.
>
> Turn now to the provinces, and a parallel state of suspended animation is demonstrable there. Homœopathic chemists find themselves operating in an increasingly limited sphere of action—as regards homœopathy. The honourable avocation of homœopathic chemist, at one time well represented in certain towns, now knows them no more: or is existent only as part of a double unity, in which homœopathic medicines and allopathic drugs are partners under the same roof. In yet other cases it is said that the phenomenally low prices of wholesale dealers to outsiders crib, cabin, and confine the *clientèle* of a homœopathic chemist within a narrowing circle. Yet, without doubt, the public interested in homœopathy, or ready to be interested in homœopathy, is as numerous, and probably more numerous, than ever.
>
> Where, in the present general revival of homœopathy does the homœopathic chemist come in? The perception of the older homœopaths was right, which recognised for him a definite and necessary function in the spread of homœopathy. What that function is, is clear beyond dispute when we reflect that *as is the activity of a homœopathic chemist in his centre, so is the local appreciation and understanding of homœopathy by the general public.* And where the influence of a homœopathic chemist is lacking or is declining there also is homœopathy shorn of one of its best propagandist forces. This is the chief function of the chemist in the homœopathic body politic—the adjustment of homœopathy intimately to the manifold lesser ills of daily life.
>
> Touch has been lost in some way between the chemists and much of the homœopathically inclined laity. Twenty years ago, in the days of Ruddock's "Stepping-stone," "Lady's Manual," and "Text-book," innumerable households were fully provided with up-to-date information and up-to-date material for dealing with the ordinary minor ailments of the home. The pocket-case and medicine-chest were well to the fore in many households not fully homœopathic. Before that era, Laurie and Epps had occupied the same position, to be displaced in the march of progress by their newer rivals. Now this wholesome method of supplying the medical wants of the community seems to have cried a halt. The enthusiasm of homœopathic domestic practice has largely died out. When one holds a court of inquiry, the causes are plain and palpable. Stereotyped methods—that is the canker-worm. For the most part the medicine-chests are the same, the pocket-cases are the same, even the domestic handbooks are the same, as those of a quarter century ago.

Mr. H. J. P. Firmin, following this up in the current issue of the "Review," says that one of the causes of so many failing to make a living at homœopathic pharmacy is laxity in the preparation of the medicines. He explains thus:

> There are of late years to be found in our midst a number of firms whose sole ambition appears to be to trade upon the name of homœopathy in order to make a commercial success of their own particular business, either (1) By selling certain medicines at prices which are below their first cost in this country, if prepared according to the directions of standard homœopathic literature, and as our physicians expect them to be made; or (2) by adopting methods of manufacture which produce forms of medicine, pleasing indeed in appearance, but full of gross impurities, and as far removed from the ideas of the illustrious founder of our system as it is possible to imagine.

While we do not pretend to be expert in homœopathic methods, we venture to suggest that where homœopathic medicines were sold twenty years ago by a chemist here and there, they are now sold by the majority; and if there are fewer homœopathic specialists among chemists, this is because medical practitioners do not require them, since most practitioners dispense their own medicines. We had presumed that in the nature of things self-medication in homœopathy would decrease, because exact diagnosis is requisite in the selection of the right remedy, and this is a thing that the average householder cannot do.

The New China.

Mr. Alexander Hosie, Acting Commercial Attaché to the British Embassy in China, has written a valuable and interesting report on the trade of that vast Empire for the year 1904-5. Mr. Hosie is well known as a leading authority on China, so that his report, which extends to 120 pages, deserves closer attention than is usually accorded to Consular reports. Although the statistics are brought up to 1905, the comments and conclusions of the writer are of recent date, as the report was only received here in September last. There is much in his remarks which tend to show that China is slowly awakening from her lethargy and apathy in regard to her commercial development. "Nearly thirty years have elapsed," says Mr. Hosie, "since an article headed 'The Awakening of China,' written by the late Marquis Tsêng, then Chinese Minister to the United Kingdom, appeared in an English periodical. More than an article was, however, needed to convince foreign residents in China that any change had taken place. But the war with Japan in 1894-95, the Boxer troubles of 1900 with their consequences, and last, but not least, the Russo-Japanese war of 1904-5 and its result, have had the desired effect. The old lethargy is going, and China has begun to awake to some, at any rate, of her needs, which are many. . . . Thousands of students have gone to study in Japan, and Japanese professors and teachers are found in the provinces. This thirst for foreign knowledge has led to the adoption of foreign things and foreign ways." The most significant symptom of all, however, is the marked changes in public attitude towards railways. The enormous importance of this change to the future of the Empire needs no emphasis.

As regards the foreign trade of China for 1904-5, the violent fluctuations in exchange and the war considerably restricted business. In spite of this, however, the imports of both years show a marked advance. In gold values there was an increase in 1904 of 8,371,000*l.* in imports and one of 3,177,000*l.* in exports, the total trade being 83,581,000*l.*, or 11,547,000*l.* more than in 1903. The average value of the tael in 1904 was, however, higher than in the previous year, thus considerably adding to the sterling totals. In 1905 the value of the Chinese foreign trade in sterling rose to 101,530,000*l.*, but the increase was entirely confined to imports, the exports declining by 1,745,000*l.* Cotton goods easily maintain the first place in the list of imports, the value in 1905 being 27,293,000*l.*, or 8,630,000*l.* more than in 1904. Our share in this enormous business in 1904-5 was 57,748,000*l.* This includes the returns of Hong-Kong, some proportion of which must be credited to other countries. But after deducting the *whole* of the Hong-Kong trade there still remains a balance of 23,225,000*l.*, which places the British Empire almost 7,500,000*l.* ahead of the next country on the list—the United States, which, no doubt, has its fair share, like other countries, of the Hong-Kong trade. The United States direct trade with China in 1905 amounted to 15,635,000*l.*, or 88,596*l.* less than the direct trade of the United Kingdom. Mr. Hosie alludes to the boycott of American goods, which at one time seemed not unlikely to be fraught with disastrous consequences to foreign trade; but, happily, the movement has almost died out.

In remarking on the numerous and varied production of oils in China, Mr. Hosie says that the most important is now wood oil, which is finding its way in increasing quantities to the United States and Australia as a paint and varnish oil. Last year the exports were 24,703 tons. Mr. Hosie adds: "The Chinese would do well to extend the growth of the valuable tree yielding wood oil, which requires no special attention, and they would confer a great benefit upon themselves if they would cease adulterating their present supplies with the cheaper oils (*e.g.*, sesame)." The total value of all the vegetable oils exported in 1905 was 544,185*l.*, against 612,793*l.* in 1904. Essential oils also dropped in value from 79,304*l.* to 71,920*l.* Musk fell by 189 lb., being 1,857 lb. against 2,046 lb.; values, however, rose by 11,239*l.*, being 72,568*l.*, or greater than the essential-oil values. The exports of rhubarb (9,904 cwt., valued at 23,478*l.*) were 256 cwt. ahead of 1904 and 879 cwt. above the average of the previous five years. The average price per cwt. was 29*s.* 1*d.* in 1904 and 47*s.* 2½*d.* in 1905. Aniseed and cassia lignea both showed considerable decrease, the former of 324,000 lb. and the latter of 229,733 lb., but the export of cassia was much in excess of the average of the previous five years, the export in 1904 having been well over 10,000,000 lb. Crude camphor made a leap from 2,641 cwt. to 6,384 cwt., the values in 1904 and 1905 being respectively 16,716*l.* and 54,732*l.* There was an increase in galls, but the export of white wax fell off. Dealing with the import trade, Mr. Hosie remarks that soap will always command a ready market in China. He says:

> I have travelled in many out-of-the-way places where it has never been heard of, much less seen, and where my cake of soap was looked upon with the greatest curiosity. On the other hand, I have seen the best French toilet-soap displayed in a shop about 300 miles from the Thibetan border at the exorbitant price of about 3*s.* a cake. Such soaps are treasured more than used. What is wanted in these remote places is a common scented coloured soap at a reasonable price. There are, of course, substitutes for toilet and washing soaps in China, while the materials for their manufacture are abundant.

Mr. Hosie has much to say about opium, the point about which is that, as we pointed out at the time the Chinese Edict was issued, there has been a considerable decline in the imports of foreign opium. This is, of course, due to an increased consumption of the native drug, and not to a decrease in opium-smoking. Without going into figures, it may be said that the average annual decline for the twenty years beginning 1885 has exceeded one thousand piculs, the imports last year amounting to 51,890 piculs, or 7,000,000 lb. Mr. Hosie makes some practical suggestions in regard to advertising and the appointment of agents, while the British exporter is criticised in regard to his lack of adaptability. Undoubtedly many economic changes are taking place in China, and they will probably be accompanied by increasing trade, in which case it behoves British merchants to see that they are not out-distanced by their competitors.

Last Year's Trade.

The colossal figures of 1906 import and export trade of the United Kingdom have stirred the Tariff Commission to action; which is natural and desirable, for there is nothing so advantageous as looking at both sides of a question. From a memorandum which we have received from the Secretary of the Commission we extract the following points worth knowing :

> The increase in the import and export trade of 10 per cent. in 1906 over 1905 compares with the following estimated percentage increases in the case of other countries—viz., Germany, 12½; United States, 11; France, 7.
>
> The rise in wholesale prices in 1906 in the United Kingdom was 6.8 per cent. There are no available estimates of the change in prices in other countries.
>
> Allowing for this change in prices, the increase of imports into the United Kingdom in 1906 over 1905, which according to the Board of Trade figures was 7.4 per cent. in values, corresponds with an increase of 2.3 per cent. in quantities; the increase of 13.6 per cent. in the values of exports corresponds with 8.1 per cent. in quantities; and the increase of 10 per cent. in the values of total trade becomes less than 5 per cent. in quantities.

The point as to increased prices is somewhat overdone, and is inconsistent with the assertions made during the year, that the increased export trade was due to makers unloading their products at any price so as to get cash.

The Undoing.

[The proud boast of the ruling party on the Pharmaceutical Council for many years past has been that they have consistently maintained the dignity of pharmacy by periodically raising the educational standard. Yet when we chide the Council for snubbing the North-British Executive in its support of the Edinburgh University proposed degree for pharmacists, a petulant paragrapher in an official journal foolishly declares that we are "deliberately attempting to undo all that the Pharmaceutical Society has done during the past sixty-six years" !]

The Scribbler wandered his cubicle round,
And wrinkled his sculptural brow,
And he vomited wrath with a blasphemous sound,
As he bellowed, "O tell to me how,
O how can I splutter my splenetic ire
And shrivel the critical gibe;
O where can I borrow that fanciful fire
So galling to Bloomsbury's kibe?"
Then the Voice of the Mews whispered, "Twang on your lyre
And a gallon of petrol imbibe."

So he scribbled and scraped at a sheet of demy,
And he wrote of "ill-feeling" and "wreck,"
With his metaphors mixed and his verbs all awry,
And no logic to hold him in check.
For his Masters were wroth and had spoken in haste,
And departed with crushing of hats;
So he babbled of "foes," and in shocking "bad taste"
He suggested that chemists were bats.
And the stars twinkled hard in the firmament chaste
As the Voice of the Mews murmured "Rats!"

Very hard is the fate of a Fanciful Scribe,
O spare him and give of your ruth,
For the depth of his anger is hard to transcribe
When critics uncover the truth.
His motives ulterior shine in the light
Of illusive phantasmagoree,
But the Men of the North are prepared for the fight,
So with whom will the vict'ry be?
And the stars were eclipsed when forth into the Night
Came the Voice of the Mews, "Ph.B.!"

A Little Lesson in German and Russian.

Our esteemed contemporary the "Pharmaceutische Zeitung" has called us to task in the following manner :

> Der Chemist and Druggist schreibt: "The Russian Medical Council has decided that the right held by dental physicians to order active and powerful medicines from pharmacists, if even for but local application—in the mouth—cannot be extended to ordinary dentists."
>
> Dass das englische Fachblatt den Schauplatz dieses Vorkommnisses nach Russland verlegt—es handelt sich um die kürzlich erlassene preussische Verfügung gegen die Zahntechniker—ist amüsant und bezeichnend.

Which means "that the English professional journal should lay the scene of this enactment in Russia when Prussia is meant, is characteristic and amusing." How so, Liebchen? It is true that Prussia has made a similar regulation, a fact which was recorded in the *C. & D.* early in December, but this later paragraph (*C. & D.*, January 5) is about Russia, *not* Prussia, the Russian Medical Council, no doubt following Prussia's example, having formulated the regulation referred to. Our paragraph was translated from the following :

> По вопросу, могутъ ли дантисты прописывать сильнодѣйствующія средства для мѣстнаго примѣненія въ полости рта.
>
> Отъ 25-го іюля 1906 года за No. 489.
>
> Разсмотрѣвъ дѣло, Медицинскій Совѣтъ, согласно журнальному постановленію Совѣта отъ 28 октября 1886 года за No. 547, полагаетъ, что право зубныхъ врачей выписывать изъ аптекъ по рецептамъ сильнодѣйствующія средства, хотя бы и для мѣстнаго ихъ примѣненія въ полости рта, не можетъ быть распространено на дантистовъ.

This is an abstract from the Russian original in the "Journals of the Medical Council." Our Berlin friend's characteristic correction is *amüsant und bezeichnend*—to us.

Pulv. Seidlitz not B.P.

[The sale of this popular aperient is threatened in a well-known Lancashire health-resort owing to one of the medical practitioners recommending instead a teaspoonful of baking-powder.]

The scientific medico,
Who hunts the dread bacillus tisic,
Nor gives the cancer-germ a show,
Is scornful of old-fashioned physic.
He eyes the elusive opsonins,
Those products of our blood so vital,
And, once the index found, begins
A regular battle phagocytal.
When patients speak to him of drugs,
He looks at them in consternation,
Then at their fond delusion shrugs,
As he prescribes "inoculation."
Thus swift the march of science runs,
Our pæans roll out loud and louder;
We now put seidlitz in our buns,
And purge ourselves with baking-powder.

A Peep Behind the Scenes.

We have received from the London and Provincial U.R. Druggists' and Drug-stores' Association, 95 Boaler Street, Liverpool, an interesting eight-page pamphlet about "incidents in connection with the work of the late Secretary, P.M.V. and Drug-stores Association, Liverpool." It is already known that the Secretary, Mr. W. James Leggett, and the President of the Association, Mr. Walter Huntrods, are not so friendly as they used to be. Two associations are now requisite to give effect to their aims. This may be on the principle of "all the more the merrier." Certainly the pamphlet is not without its amusing side. Leaving "U.R. Druggists" (a title which infringes Section 15 of the Pharmacy Act if used by persons not registered under that Act) to their pleasantries, we search the pamphlet for something of general interest. The Rankin's ointment case bulks well in the pages. We gather that the C.D.A. solicitors wanted 35*l*. for Leeds and Bradford Court costs. Mr. Leggett disagreed, although Leeds did not, and about half the sum was saved. There was also some difficulty about proving a death from "—— ointment," and expert evidence which is all a little mysterious to the uninitiated. We hope the Earl of Crewe gets a copy of the pamphlet, for there is a great deal in it about the way his department was cajoled into striking off three articles from the Poison Committee's recommendation for addition to the Schedule. "Salts of Lemons" was the article that the Leeds Section of the Association wanted off, but Liverpool insisted on acetanilide and sulphonal also, getting them. The moral of the matter is in the last paragraph of the pamphlet, viz. :

> These are the gentlemen who are soliciting the suffrages of the U.R. druggist and drug-store proprietors, when they have not learned the rudiments of organisation, without falling foul of our friends the enemy. Their circulars have reached qualified chemists in my own neighbourhood. *Sic!* Royal Charters, indeed!

This might have a wider application than Mr. Leggett intends.

At the Counter.

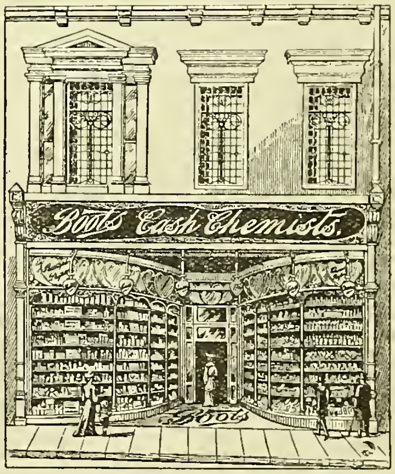
Elegant Pharmacy !—A Yorkshire subscriber sends us a set of ten dirty poison-labels which have been pasted one on top of the other on one bottle for as many orders for laudanum and paregoric elixir. It is interesting to note that the labels, with one exception, are those of either co-operative societies or drug-stores.

Scotland, Ireland, and the North Countree.—Scotland justifies its reputation for clear-headedness by the comparative paucity of its contributions. Of a fairly large stock of curious orders but two are Scotch. One calls for "1*d*. perri McGenty of potash," a distinctly original variation of an old difficulty; and the other, sent by a chemist in Aberdeen, for "3*d*. sarispalla, 1*d*. junction root, 1*d*. Pruvan bark, 1*d*. black sugar, 1*d*. squacher chips."—The happy-go-lucky Irishman, of course, supplies some of this unconscious humour Belfast orders include "peropide of hydgin," "Rotchilde salts," "ucoliptos," "Lickers polver," "gallan opinons ointmus" (the pile specific), "diluge selfuril acid" (ac. sulph. dil.), "matnyget patach" (the much-tortured permanganate), and "kittens powder" (for Keating's), most of which are fortunately obvious. Limerick chemists have been asked for "glycerine imposters," "explosure meters," "1*d*. Minkel for thooth," and "prepisis ointment." A Monkwearmouth batch, sent by Mr. E. R. Cherrett, supplies some curious examples of North-country spelling. "Kupatkine" seems war-like, but probably means nothing worse than Kaputine. "Antporian" and "metle" were required for similar purposes. "Permingalland of pottash" and "Condid fluid" inquirers were satisfied with the appropriate disinfectants. "Dyhackelmo for to put on a woman breast," "1*d*. box varsaleck onimont," "Hand Berrys food No. 1," and "blue uncktion for the head" or "blue unpcher" are somewhat weird variations. This collection also includes "holloghon," for eau de Cologne, "meltlated Sprite," and the somewhat vague requirement "2*d*. of clear liniment the colour of water," all on the usual diminutive and dirty scrap of paper.

Wedded William: "Give me a drop of lotion for me eye, please, sir."
Chemist: "What have you been up to this time?"
W. W.: "Well, you see, sir, my old woman is one of these 'ere suffragettes, and I don't hold with it meself, so we had a word or two."

A Scrap-album of original orthographical curiosities collected during the course of many years by Messrs. Rankin & Borland, of Kilmarnock, has been sent to us. It is an extremely interesting collection of "At the Counter" lore, but the good things in the book are far too numerous to detail. A cursory perusal discloses requests for such apparently obscure things as "paladonen"; "promatic" (for the hair); "tinker herrinbane" (a fishy flavour about that!); "gumarabbie" (reminiscent of the national poet); "acipheda pills"; "abidaldy"; "oxey croxey"; "easnes of papurment"; "solsom of seal"; "hipp-yellkickyellanikell wine"; (surely a record in length); "epecetuana"; "epitechnie"; "dolphin pill"; "hearthorn canfor," "azinkankment"; "Cushie neddles," "padgory"; "cheratic"; "opia Delra"; "lechula sent"; "baladion for the hart"; "reid seapety"; "satrik McNesia"; "appy gildog"; "danty liand"; "cussia neal"; "Bos leonen"; "glessern"; "seroppy sinnie"; "roven bark"; "finassitine"; "gar skiree" and "Kiskerret"; "parria gorea"; "finasteen," and "proving barks." To the initiated these puzzles are child's play, but others in this extraordinary collection want thinking out. For instance, "adinsightment" is a slightly complicated form of ung. iodi, while "bird-gum-of-sent" is so precise that bergamotte is somewhat obscure. "Pro madda protasam" has a Latin appearance and a reminiscence of primordial protoplasm, but experienced countermen will recognise that bromide of potassium is what is really required. "Usiparity pills" are our old friends of the obnoxious odour. "Hella-bull power" suggests the force of the fiends of darkness, and the soothing sweetness of "Vanesa tuartim" would be misinterpreted by anyone but the wise chemist. The disjointed irrevelance of "E. P. Ke Ke annia Wine" is somewhat of a novelty, and "efecial docks," even at Southampton, are far removed from opodeldoc, while a wealth of imagination is demonstrated in "effecercetria mecia." Some of the letters sent are rather quaint. One gentleman in a flowing hand writes calmly for "2 drams arsenic in 8 ounces of water (fluid measure). Doze—a desert-spoonful three times a day after meals." This "prescription" is marked "not dispensed." A farmer's memorandum from his good wife is included. It calls for "Beecham's pills, raisons, caster oil, sugar, camper acid oil, currens, soda, oranges, cream of tartar, tea, horse mixture, gloves, wick for lamp, four bonnets, Martha's dress and a toaster." A truly feminine touch is given by the special injunction at the bottom of the list "Keep mind of the bonnets." A facetious plumber and ironmonger in a neighbouring village sends for "1 dozen murder by bearer." For "murder" read Rankin's ointment. An envelope with the London post-mark is addressed to "Rankin & Borland Peunamatical chemists," while another from Heckmondwike is written "Rainkin & Boarland, Kilmornock Chemist, Cotland."

A New Boots' Shop.



The above is a sketch of the frontage of the new premises of Messrs. Boots, Ltd., in Bold Street, Liverpool. The basement is used for silver goods and the like, the ground floor is devoted to pharmacy, and the first floor to art and literature—*i.e.*, pictures and picture-framing and the book and library department.

Winter Issue Insets.

Notes o the Advertisement Insets that appear in this issue of "The Chemist and Druggist."

THE inset advertisements which appear in the special issues of The Chemist and Drugggist are a unique feature to which the attention of subscribers is invariably attracted. In this number the variety is as great as ever; the insets including some really fine specimens of the colour-printer's art. It is, however, also from the business side that chemists regard advertisements, and the keenest business-men are those who appreciate that the onward progress of trade depends on selling the most recent and improved articles. These can be discovered by searching the pages of The Chemist and Druggist, which is adopted as the best advertising-medium for the drug-trade by up-to-date wholesale houses. The insets especially are evidence of a desire to interest chemists, as such a collection of well-produced circulars cannot be found anywhere else in the world. On this account we recommend a careful study of the insets included with this number, to the mutual benefit of retailer and wholesaler. To facilitate reference we have given at the end of each paragraph an indication of where the inset will be found. The next opportunity for circulating inset advertisements will be in the Summer Issue, which will be published on July 27. Our publisher is always prepared to advise as to the best methods of producing insets, and his experience is willingly placed at the disposal of drug-trade advertisers.

Allen & Hanburys, Ltd., London, in a beautifully printed inset indicate some of their specialities in packed drugs and toilet-articles. The prices of the goods thus illustrated are given, so that one is enabled to see that excellence in style and quality is not incompatible with reasonable prices. It will be noted that these packed goods can be had bearing the retailer's own name and address, and that they are only supplied to chemists. (Pp. 32 and 33.)

H. Bronnley & Co., Ltd., London, W.—This inset is devoted to Courvoisier's otto of violets and Malloween cream, a perfume and toilet-cream which have made reputations owing to their merits. The circular announces that in connection with the advertising campaign for 1907 is a scheme for distributing free samples in cases where window-shows are made. (Pp. 64 and 65.)

Brunner, Mond & Co., Ltd., Northwich, Cheshire, have an inset which proclaims the advantages of using sodium bicarbonate as a source of carbonic anhydride in aërated water manufacture. The detailed instructions given enable anyone to test the matter for himself. It is a good time of the year to change from whiting to bicarbonate, and aërated-water makers would do well to study this inset. (Pp. 32 and 33.)

W. J. Bush & Co., Ltd., Ash Grove, Hackney, London, N.E., are noted for fruit-essences. The inset which is distributed in this issue enumerates the chief essential oils for which "ye oldeste essence distillers" are noted, the fact being emphasised that the oils are absolutely pure and stand the tests of the B.P. 1898—fitting them for medicinal purposes. (Pp. 32 and 33.)

Butler & Tanner, Frome, Somerset, offer to make price-lists and catalogues "attract, interest, and influence those who receive them." This firm have specialised in this department of their large printing-business, and they are prepared to submit specimens and prices to any of our readers. The offer is made in an inset between pages 120 and 121.

Durafort & Son: agent, E. Schmolle, 42 Gutter Lane, London, E.C., have an inset devoted to the Durafort syphons, which are made in several varieties of tops. On one side of the circular there are particulars of the new syphon-top with porcelain core, which is designed to prevent the aërated water coming in contact with metal. (Pp. 64 and 65.)

Fairchild Bros. & Foster: Agents, Burroughs Wellcome & Co., Snow Hill Buildings, London, E.C., have a finely-produced inset devoted to panopepton, zymine peptonising powders, peptogenic milk powder, and pepsencia. The three-colour photographic reproductions of the packages of these specialities are particularly attractive. The preparations of this firm have a well-established reputation and are just now in the highest appreciation by medical men, who are beginning to understand the value of carefully-produced ferments. (Pp. 120 and 121.)

Fletcher, Fletcher & Co., Holloway, London, N., combine an inset with a Vibrona show-bill, part of it being detachable for use as a window-ticket. Full particulars are given in the inset of the fixed minimum wholesale prices for Great Britain and abroad. Vibrona is a P.A.T.A. article, and hence has a fixed retail price. On the back will be noticed a photographic reproduction of a Vibrona window-show. (Pp. 32 and 33.)

C. J. Hewlett & Son, Charlotte Street, London, E.C., particularise in their inset the various malto preparations which they make. The series consists of five different articles, "Malto Phosphates," "Liquid Malto," "Malto Eastoni," "Malto-Hypophosphites," and "Malto-Cascara." The style of package is shown in the illustrations. *Colonial and Foreign copies only.*

Howards & Sons, Ltd., Stratford and Ilford, Essex. This inset, giving a list of chemicals manufactured by Messrs. Howard, will prove of service to those who are accustomed to add the word "Howards" to their orders, and will prevent delay as it shows exactly the chemical products which the company make. The three-colour picture on the cover shows some of the original packages of Howards' chemicals. The notes following some of the names in the list are particularly instructive. (Pp. 120 and 121.)

The Ichthyol Company, Cordes, Hermanni & Co., Hamburg, insert a circular which shows what the tins and labels of genuine ichthyol look like. On the back of the inset is an abbreviated treatise on the medicinal uses and pharmacy of ichthyol which dispensers will find handy for reference. (Pp. 64 and 65.)

Knoll & Co., 27a St. Mary-at-Hill, London, E.C., indicate in an inset some of their new products. One of the most interesting of these is Santyl, which is used in the treatment of gonorrhœa. Santyl is the result of a search for a non-irritating santal-preparation, sandalwood oil being chemically transformed into a resin-like substance free from injurious properties. The Knoll brand of alkaloids should also be noted. (Pp. 64 and 65.)

Koko-Maricopas Co., Ltd., 16 Bevis Marks, London, E.C.—The inset which this company distribute contains particulars of a special offer of Koko which is available on conditions that a window-display or window-bills are exhibited for a month. A small reproduction of the showcard is given on the front page of the circular. (Pp. 64 and 65.)

McKesson & Robbins, New York, U.S.A. (London agents: S. Maw, Son & Sons, 7 to 12 Aldersgate Street, E.C.), give in their inset a selection of the formulæ for McK. & R. ovoid capsuled pills. Special reductions have recently been made in the prices for quinine-sulphate and quinine-bisulphate pills. The back page of the inset is devoted to Calox, the oxygen tooth-powder, for which the British agent is A. C. Wootton, 14 Trinity Square, Tower Hill, London, E.C. This scientific dentifrice has now established its position on the English market, and as it yields a living profit to the retailer it is well worth pushing. (Pp. 120 and 121.)

A. & F. Pears, Ltd., 71-75 New Oxford Street, London, W.C.—"The highest possible distinction obtainable has been awarded in every competition at every International Exhibition at home or abroad since 1851 to Grand Prix at Paris in 1900." This is a quotation from the inset of Messrs. Pears in this issue, which also gives the wholesale prices and discount arrangements so adjusted that buyers of 5*l*. of soap obtain the maximum concession. (Pp. 32 and 33.)

Giov. Restuccia & Co., 5 Idol Lane, London, E.C., are growers of lemon, orange, bergamot, and olive oils, their groves being situated at Messina, in Italy. An instructive inset mentions the constants of the various essential oils this firm make, and pictorially represents the gathering of olives and the extraction of oil from lemon-peel. (Pp. 64 and 65.)

Rudduck & Co., 262 Old Street, London, E.C., insert a circular which enumerates some special lines in shop-fittings. From this inset it is possible to work out the cost of fitting a shop, the dimensions of the room being known. Chemists re-fitting or requiring additional showcases will find the announcement equally interesting. (Pp. 64 and 65.)

Stevenson & Howell, Ltd., 95a Southwark Street, London, S.E., call attention in a circular to the "Perfect Soluble Essence of Lemons." The essence is made from lemons only, this fact being effectively emphasised by a pictorial representation of a bunch of lemons. Stevenson & Howell's soluble essence of stone ginger-beer is another aërated-water makers' requisite which has an enviable reputation. (Pp. 64 and 65.)

The Vine Products Co., Ltd., 74 Great Tower Street, London, E.C., indicate many of the wines they make in an inset which has an attractive trade-list attached to it. Some of the products are non-alcoholic, and can be sold without any licence being required; others, again, can be sold under a 25*s*. sweets licence. The wines which this Company sell are stated to be particularly suited for preparing medicated wines. Other interesting announcements are made in the inset. (Pp. 32 and 33.)

William R. Warner & Co.: British Depôt, Francis Newbery & Sons, Ltd., Charterhouse Square, London, E.C. This eight-page inset tells of the Warner specialities in pills, tablets, and packed goods. Sugar-coated pills are the chief product of this house, and it is claimed that pills coated with sugar have advantages over other kinds of coated pills. A money-making offer referring to "Little Liver Pearls," and available till the end of April, is made on p. 5 of the inset. Some pharmaceutical products for prescriptions are given on the back. (Pp. 120 and 121.)

With's Chemical Manure Co., Hereford, in their inset bring before chemists a plant-food designed to develop a side of the business which has hitherto been much neglected. The supply of horticultural and agricultural fertilisers, as distinguished from crude manures, is well within the province of the chemist and druggist. Fertilisers, being chemical products, are free from the disagreeable odour always associated with old-fashioned manure. This inset shows the extent to which special fertilisers have been evolved to meet the requirements of growers of various flowers. (Pp. 64 and 65.)

The Jamaica Disaster.

THE series of earthquake shocks, said to have been as many as thirty in three days, with which Jamaica was visited on January 14 and onwards was the most serious felt in the island for 250 years. It wrecked the whole town of Kingston, besides damaging Port Royal, Spanish Town, and other places. Fire completed the destruction in many places. Reports indicate that over 1,700 lives have been lost. Among those reported dead are Drs. Ironstaff and Motta, Dr. Gibb (a veterinary surgeon), and Mr. G. Wyley (chemist). The Hon. William Fawcett, Director of the Public Gardens, and Dr. Vaughan Cornish are said to be safe. Considerable distress prevails, there being a great lack of food and surgical supplies. The King promptly asked the Lord Mayor of London to open a relief fund, and gave 1,000 guineas to start it. Among those whose names appear in the lists of contributions are:

> Messrs. S. Maw, Son & Sons, 105*l*.; Messrs. Crosse & Blackwell, Ltd., 105*l*.; Messrs. J. Grossmith, Son & Co., 52*l*. 10*s*.; Messrs. C. Tennant, Sons & Co., 105*l*.; Sir Edward Tennant, 105*l*.; Messrs. Cadbury Bros., Ltd., 250*l*.; Mr. J. C. Eno, 105*l*.; Messrs. Johnson, Matthey & Co., Ltd., 105*l*.; Messrs. James Epps & Co., Ltd., 10*l*. 10*s*.; Messrs. J. & J. Coleman, Ltd., 250*l*.; Messrs. C. M. & C. Woodhouse, 52*l*. 10*s*.; Messrs. Morgan Bros., 42 Cannon Street, 100*l*.

The Kingston Drug-store (Messrs. John M. Crosswell & Co.'s, 12½ King Street), of which pictures were given in our issue of January 19, p. 85, has since figured in the disagreeable *contretemps* between Sir J. A. Swettenham, Governor of Jamaica, and Rear-Admiral Davis, of the U.S. Navy. A party of marines from the American warships was sent ashore, and, among other things, they helped Mr. Magness, proprietor of the Crosswell store, to clear up the premises and make them fit for business again. The Governor, in a letter to the Rear-Admiral on Saturday, sarcastically remarked:

> I find that your working-party this morning was helping Mr. Crosswell (*sic*) to clean his store. Mr. Crosswell is delighted that this work should be done free of cost, and if your Excellency will remain long enough, I am sure all private owners will be glad of the services of the Navy to save them expense.

It has since been stated that Mr. Magness was threatened by the Governor with arrest unless he desisted from availing himself of the help of the U.S. marines to clear his shop and warehouse—or the ruins of them, one telegram says. Mr. Magness is a pharmacist, presumably with an American diploma, and has travelled in the United States. It is five years since he last visited this country. Messrs. Burgoyne, Burbidges & Co. inform us that on Monday they received a cable from him, sent off on January 18, announcing that he is quite uninjured.

The "Tribune" is organising a relief-scheme, which is to take the form of supplies. Mr. Thomas Barclay, Birmingham, is one of the Committee. Medicines, disinfectants, etc., are wanted. We understand that Messrs. Baiss Bros. & Stevenson are sending out a large supply of "Kresyl" disinfectant.

Creating a demand is not so profitable as discovering a demand that exists and, by advertising, showing people how to satisfy it.—*Printers' Ink.*

A Short Scheme of Water-analysis.

By J. A. Hughes, F.C.S., Phar. Chemist.

THERE are probably many chemists and their assistants who would like to examine their water-supply, but are deterred by the thought that the process is long and tedious, and requires special knowledge and expensive apparatus. The following simple scheme, while not put forward as exhaustive, is quite sufficient to enable one to form a very good opinion of the potability of a given water. For supplementary information the reader should refer to Dr. Thresh's excellent little book on the subject, which is very full on the interpretation of results and, moreover, gives many typical analyses.

For the benefit of those who have no metric weights and measures I have given alternative British quantities; but these are not always equivalent, so it is better not to mix them up, but to stick to one system only, otherwise the analytical tyro may get disgusted.

1. *Colour.*—Fill a clean test-tube and stand on white paper. On looking down the tube the water should be perfectly clear and white or have not more than a slight bluish tinge. A yellow or brownish tint generally indicates pollution.

2. *Sediment.*—Allow the test-tube full of water to stand. If any sediment collects at the bottom pour off the supernatant liquid and examine the deposit with the microscope.

Harmless matter in sediment: Sand, clay, algæ, diatoms, etc.

Suspicious ditto: Hairs, epithelial scales, fibres of wool, cotton, or linen, muscle-fibres, etc.

3. *Smell.*—Warm some of the water in a corked flask. Remove the cork and apply the nose at once. A pure water should be free from smell.

4. *Total Solids.*—Chiefly calcium carbonate with more or less calcium and magnesium sulphates, chlorides, nitrates, and silica, together with any organic matter that may be present. Evaporate 70 c.c. or 700 grains to dryness in a thin evaporating-dish on the water-bath. Dry and weigh as milligrams or grains.

$$\left.\begin{array}{c}\text{Every milligram of solid per 70 c.c.}\\ \text{or}\\ \text{Every }\tfrac{1}{100}\text{ grain per 700 grains.}\end{array}\right\} = \text{grains per gal.}$$

The total solids in a good water may be anything up to 30 grains or more per gal.

Those who have no balance may omit the weighing as the information it affords has little bearing upon the potability of the water.

Ignite the residue gently. Charring denotes organic matter. Notice the odour to distinguish whether animal or vegetable.

5. *Hardness.*—To 70 c.c. of water in a stoppered bottle (one holding twice or three times the quantity is best) add Clark's soap solution (1 c.c. = 1 mgm. $CaCO_3$), 1 c.c. at a time and shaking well after each addition, until a permanent lather is obtained (that is, a lather lasting two minutes). Deduct 1 c.c. for the soap in the lather; thus, if 11 c.c. were required, the hardness would be 10°—*i.e.*, 10 grains to the gallon.

To distinguish between temporary and permanent hardness, boil 70 c.c. down to about half, filter, make up to 70 c.c. with distilled water, and again test. The hardness this time is permanent, the former being total. 5° total hardness is low, 10° moderate, 15° hard, and 20° very hard.

Clark's solution may be made by dissolving pulv. sapo castil. in methylated spirit and standardising against a water containing a known quantity of $CaCO_3$ dissolved by the aid of hydrochloric acid. It is much more convenient to get a little of the test-solution ready prepared.

Those who have no metric measures should note that 1 c.c. = 16.9 minims, so that 70 c.c. = 19 dr. 43 minims.

I have given Clark's test as it is the generally recognised one for lime in water, but I find an easy and more accurate method is to simply add 1 oz. of liq. ammon. fort. to 16 oz. of the water. The more lime there is in the water, the more cloudy the mixture, and if allowed to stand several hours (or, say overnight) the lime settles to the bottom and may be collected on a filter and dried and weighed. The weight in grains multiplied by ten gives the number of grains of lime per gal.

5. *Chlorides* are estimated by titration with $AgNO_3$. Indicator, chromate of potassium.

$$\begin{array}{ccc}AgNO_3 & +\,NaCl & = AgCl + NaNO_3\\ | & | & \\ 168.69 & 35.19 & \\ 4.793 & 1 & \end{array}$$

Strength of silver-nitrate solution 4.79 mgms. per c.c., or 4.79 grams per litre.

Each c.c. of this solution added to 70 c.c. of water represents 1 grain of chorine (as chlorides) per gal.

Using the British system, dissolve 5 grains of silver nitrate in 1.040 minims of distilled water. Then each 10 minims added to $\frac{1}{100}$ gal. of water represents 1 grain of chlorine per gal.

Proceed with estimation thus: Weigh 700 grains (? gal.) or measure 12 dr. 48 min. of the water into a glass flask or white dish and add a drop or two of solution of chromate of potassium. Then fill a 2-dr. minim measure with the test-solution of silver nitrate and transfer with a pipette, drop by drop, to the water until it is tinged red by the chromate of silver formed. If a glass flask or bottle is used, stand on white paper to see the colour better. Note how many minims of the silver solution were required. Each 10 minims equals 1 grain of chlorine per gal. Thus, if 30 minims was required, the water contains 3 grains of Cl per gal.

This method is quite as accurate as using a burette. The silver solution should be kept in an amber stoppered bottle.

7. *Ammonia.*—To 25 c.c. (about 1 oz.) of the water in a wide test-tube add 0.5 c.c. (8 minims) of Nessler's reagent (B.P.) and note the colour. There should not be more than a very slight yellow tinge: a deeper colour or turbidity denotes pollution. Hold a sheet of white paper behind the tube, and compare with tubes of clean water without the reagent. Comparisons may also be made with very dilute solutions of ammonium chloride of known strengths.

8. *Nitrites*, if present in water, are strongly indicative of recent sewage-contamination. Test thus: To a test-tube of the water add a small crystal of potassium iodide, a little starch paste, and a few drops of diluted sulphuric acid. In the presence of a trace of nitrite a blue colour is at once formed. If nitrites are found, carry out a blank test on distilled water in case the potassium iodide may contain free iodine.

9. *Nitrates* are present in traces in almost all waters, so the object of analysis is to determine whether the quantity is small or great. In the above test for nitrites, if there is no immediate blue colour, add a little zinc dust or granulated zinc. If nitrates are present in quantity, the blue colour is at once formed.

10. *Phosphates.*—Evaporate some of the water to dryness, and to the warm residue add a few drops of ammonium molybdate and nitric acid. There should not be more than a slight yellow tinge of colour. Much phosphates indicates animal pollution.

11. *Oxygen Absorbed.*—Estimated by adding a standard solution of permanganate of potash to the acidified water.

$$\begin{array}{lcr}K_2Mn_2O_8+3H_2SO_4=K_2SO_4+2MnSO_4+3H_2O & + & 5O\\ | & & |\\ 316 \quad \ldots\ \ldots\ \ldots\ \ldots\ \ldots\ \ldots & & 80\\ 3.95 \quad \ldots\ \ldots\ \ldots\ \ldots\ \ldots\ \ldots & & 1\\ 0.395 \quad \ldots\ \ldots\ \ldots\ \ldots\ \ldots\ \ldots & & 0.1\end{array}$$

Strength of permanganate solution 0.395 mgm. per c.c., or 0.395 gram per litre.

Each c.c. added to 70 c.c. represents 0.1 grain O absorbed per gal.

Using British weights and measures: Take 1 grain of potassium permanganate (or 110 minims liq. pot. permang., B.P.) and make up to 2.532 minims (5 fl. oz. 2 dr. 12 min.) with distilled water. Then each 10 minims added to $\frac{1}{100}$ **gal. of water** represents 0.1 grain of O absorbed per gal.

Note.—This, as all other volumetric solutions, should be kept in stoppered bottles.

To carry out the test: Place 700 grains, or 70 c.c., of the water to be examined in a glass flask. Add about 10 drops of diluted sulphuric acid, warm gently, and, having previously measured out 10 minims of the standard permanganate solution, drop in from a pipette, shaking the flask after the addition of each drop. As soon as the faintest permanent tint of pink is produced in the water, stop the addition of the test-solution and warm again to see if the colour disappears. If so, add another drop from the pipette, limiting the whole test to fifteen minutes. The reaction is complete as soon as the faintest permanent pink tinge is obtained.

Each 10 minims of the permanganate solution to 700 grains of water (or, using metric strength solution, each c.c. added to 70 c.c. of water) represents 0.1 grain per gal. of O absorbed. Thus if 5 minims, or 0.5 c.c., was required the oxygen absorbed = 0.05 grain per gal. (B.P. limit for aqua destil.).

12. *Metallic Impurities.*—Soft waters are more liable to metallic contamination than hard.

Fill a test-tube with the water and add a few drops of solution of chromate of potash. In the presence of traces of lead a yellow turbidity of lead chromate is formed. Confirm with H_2S.

To another test-tube full add a few drops of solution of potassium ferrocyanide. Zinc gives a white turbidity, copper a brownish precipitate, iron a blue coloration. Hold the test-tube over white paper.

In considering the data obtained, one must be influenced by the condition of the source of supply. If liable to pollution one is justified in condemning a water even though it affords only slight evidence of organic impurity, because there is always the possibility of further contamination.

The determination of the solid matter and hardness is of primary importance only in ascertaining the suitability of a water for use in steam-boilers. A water comparatively free from lime is obviously an advantage for domestic purposes; but here it is a secondary matter, the chief thing being to ensure freedom from organic contamination. For this purpose, then, the tests enumerated and discussed separately below are all-important, but they must be considered together, no one of them alone being sufficient to condemn or pass a water.

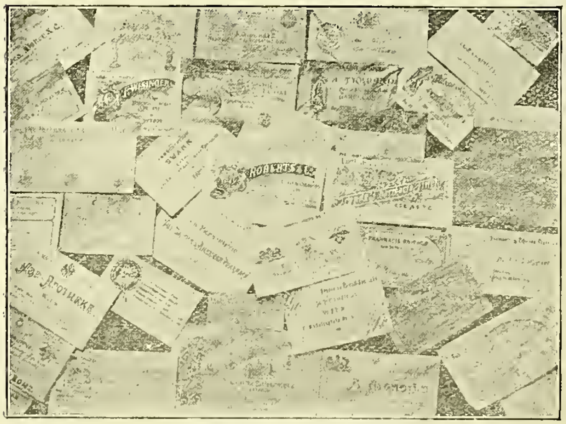
Oxygen Absorbed.—This test gives a reliable indication of the amount of organic matter present in the water, but it does not distinguish between that of animal and vegetable origin. To do this we must consider the amount of chlorides, nitrates, and ammonia present. If a water absorbs more than 0.1 grain of oxygen per gal., it is probably polluted. Most hard waters absorb less than 0.05 grain, and this is the B.P. limit for aqua destil. Peaty or moorland water, however, is an important exception. This may absorb 0.2 grain or more and yet be perfectly wholesome; but such a water usually contains exceedingly small quantities of chlorides and nitrates, the organic matter in this case being of vegetable origin. In applying this test, if the water turns muddy or brown it is to be regarded with great suspicion.

Ammonia.—All natural waters contain a trace of ammonia, but not sufficient to give a distinct yellow coloration. When such is the case it is strongly indicative of animal pollution. Exception: Rainwater, a pure form of drinking-water, contains relatively large quantities of ammonia derived from the atmosphere, and not the result of decaying organic matter, and so yields practically no chlorides or nitrates.

Chlorides.—The chlorine in a good water is generally under 4 grains to the gallon, and in the best waters much less than that. High chlorides are very suggestive of sewage-contamination (urine), and, in conjunction with a high figure for oxygen-absorption, would be enough to condemn a water, especially if there is much ammonia, nitrates, or phosphates present. Some very pure waters —*e.g.*, from sources near the sea—contain very large quantities of chlorides, but such waters contain very little organic matter (*i.e.*, absorb little oxygen) and are practically free from ammonia and nitrates, showing that the chlorides are of inorganic origin.

Nitrites.—These are never found in a good water, although it appears there are exceptional cases where they have been traced to reduction from nitrates, due to the action of metals.

Nitrates and Phosphates.—Good waters are always comparatively free from these. There should not be more than traces.



Prescription-envelopes

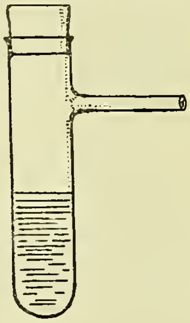
Collected by a chemist who is interested in an often neglected accessory to the dispensing-counter. From a photograph.

Boric Acid in Milk.

By F. H. Alcock, F.I.C.

MANY methods have been recommended for the qualitative examination of milk for the presence of boric acid therein. Turmeric paper is useful when applied in the prescribed way on the ash of milk, but it is attended with some uncertainty when the quantity of the preservative is small. The test based upon the formation of methyl borate is very good if applied as follows:

> 25 c.c. (which may be the contents of the specific-gravity bottle after taking the specific gravity) is evaporated to dryness on the water-bath, adding a little (0.5 gram) pure calcium carbonate or not, as occasion may require; incinerate until a white ash remains, then add 1 c.c. of hydrochloric acid (half B.P. strength), and evaporate to dryness. Now add 10 c.c. of methylated spirit and 2 c.c. of strong sulphuric acid, using the last to rinse out the dish, and warm. Transfer by a long-stem funnel to a test-tube, which has been prepared in the form shown in the figure. Cork lightly (set aside an hour or so if thought desirable) and warm gently, using a little pumice or a few pieces of glass to moderate the bumping action which ensues when steam issues from the side orifice. Apply a light, and a continuous flame of a green colour makes its appearance if boric acid be present.



The use of a water-bath for heating is not good, for the best results are obtained when the boiling-point rises to about 240° F. It is also useful for the milk-seller may doubt the results sometimes, and he may be shown the test, or it may be produced in court or elsewhere, if found necessary, for the flame may be produced at will by elevation of the temperature so long as the methyl borate remains. The experiment has been repeated about twelve times during a period of five days, and the methyl borate seems almost inexhaustible in a small way with a sample of milk containing traces of boric acid. A small cap can be provided for the side tube, made of indiarubber tubing stoppered with a piece of glass rod. The side tube is best made by heating a patch in the test-tube about 1½ in. below the top, of the size of a threepenny-piece, with the aid of a fine jet of flame produced with the blowpipe and Bunsen burner. Then, while hot, touch the centre with a hot platinum wire and draw out the molten patch (which adheres to the wire) in a straight line quickly but gently. Then break off the point carefully.

An Interesting Fungus.

By Peter Fenton.

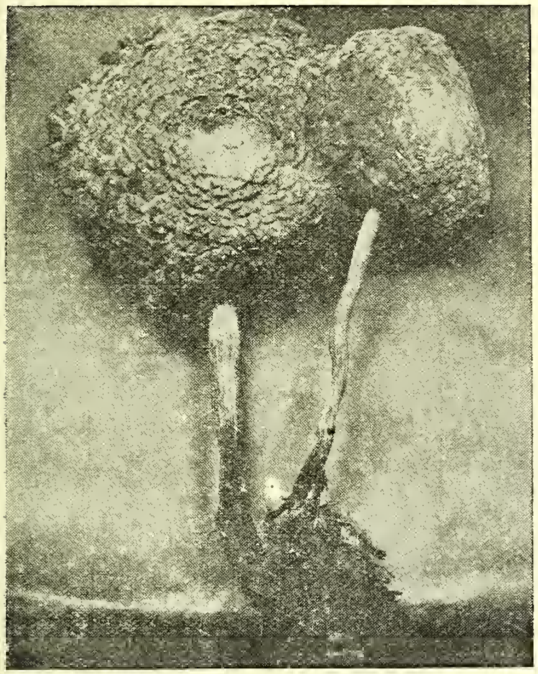
SOME time ago I received three specimens of a rare and interesting fungus, *Agaricus* (*Lepiota*) *rachodes*, which were found growing in a disused house situated in the parish of Lintrathen, Forfarshire, 50 ft. above the river Meldrum, near Loch Lintrathen. The house is supposed to be over 100 years old. It is thatched with rushes, the beams of the roof being made of larch-branches. A peculiarly interesting point about the specimens was that they grew on the inner side of the roof in a hanging position —*i.e.*, pileus downwards. All three were dry and somewhat shrunken, and when the under surface of the cap or pileus was examined the presence of another fungus was revealed, thus showing that they were pretty old. This I found to be correct on submitting the specimens to a competent authority.

The fungus derives its name from its general appearance, and is classed by fungologists as a subgenus of the *Agaricus* or mushroom family. According to statistics it has never been found in the West of Scotland, and only occasionally in the North of Scotland. I give a brief description of the general characters of this interesting species:

> The pileus is always very fleshy and globose when young, but very soft when fully matured, becoming quite flat or depressed for a time. At first it is encrusted with a thick

cuticle, which remains entire at the disc, but soon becomes elegantly reticulated with cracks. These very readily separate into persistent scales regularly disposed all over the surface. Hence the name, Lepiota, meaning "scaly." In addition it has received the name "rachodes," which means "ragged," on account of the epidermis resembling brown shaggy leather.

The flesh is of a creamy whiteness, soon becoming saffron-red on being broken or cut, easily separating from the apex of the stem, which is encircled by a prominent collar or frill.

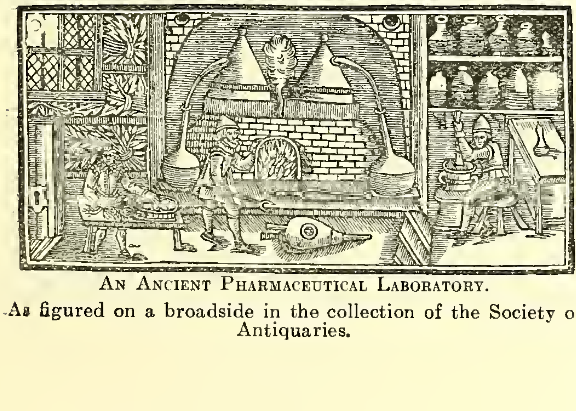


The gills are large and white, and separated widely from one another, while the spores are ovoid. The stem erect and graceful, more or less stout and conical when young; then attenuated upwards, thick, especially at the base, and without a trace of scales or even fibrils. Moreover, it is hollow within and stuffed with spider-web-like threads.

When old a groove is frequently present, which runs from the base to the apex. The ring is often loosened from its attachment to the stem and movable; odour and taste pleasant.

Such is the general appearance of the species, which occurs in woods (chiefly firs) and old thatch, from August to November, and is reckoned an edible fungus. Usually it is found singly, or only two or three together. In the photograph two joined at the base are seen. The pileus of the larger one measured 5 in. in diameter.

A companion species, *Agaricus procerus*, much resembles it, but *A. rachodes* is distinguished by the pileus being more globose when young, and by the generally distinct marginate bulb and the stem being free or nearly free from spots, which give *A. procerus* a snake-like appearance. The latter is a great favourite with mushroom-eaters.



An Ancient Pharmaceutical Laboratory.

As figured on a broadside in the collection of the Society of Antiquaries.

Emulsions:

Some Observations on Emulsifiers and Emulsification.*

By S. Royce, Ph.C.

EMULSIFYING-AGENTS are mostly of a colloidal nature, whether we use albuminous bodies, such as casein or yolk of egg, or mucilaginous bodies, such as gums acacia and tragacanth, or use saponaceous agents, like the soaps or saponin which is contained in quillaia or senega. These agents are all colloids. An emulsion is a mixture of substances otherwise immiscible by means of some intermediate agent. In the words of Scoville, "What tact is to society the emulsifying-agent is to the emulsion. It introduces the antagonistic bodies, overcomes their antipathies, brings them into intimate contact, and holds them together in harmony" He further states that "bodies which produce foam in watery fluids are usually good emulsifying-agents."

Bearing in mind the view that the so-called solution of a colloid possesses a structure in the mechanical sense of the term, we can readily form a mental picture of an emulsion. The minute particles of oil are held in the meshes of the network, and are separated from each other by the particles of gum and the water which is intimately associated with it. In what is termed a perfect emulsion these globules are too small to be seen by the naked eye, and the liquid should be homogeneous throughout—that is, it should not separate into two or more distinct strata. Some emulsions satisfy only one of these conditions, and a bad one none. On the one hand it is possible to prepare an emulsion with tragacanth, for example, in which the oil-globules are distinctly visible, and yet there may be no separation, owing to the viscosity of the liquid. On the other hand, the emulsion may separate into two distinct layers, and yet the upper layer containing the oil may show no oil-globules visible to the naked eye. The comparative failure in the case of tragacanth is due to the fact that it is extremely difficult, if not impossible, to break up the oil into sufficiently minute particles by means of this emulsifying-agent. The cause of separating into two layers in the second case is too great dilution with water.

To form a perfect emulsion we must have some substance which is capable, in the first place, of breaking up the oil into very minute globules, and, secondly, of forming a liquid sufficiently viscous to prevent the emulsion when formed from separating. Undoubtedly acacia is the emulsifying-agent most universally employed, and it owes its reputation to the fact that it combines these two properties as no other substance does. It does not seem necessary that both these properties should be combined in the same substance, and in making emulsions on a large scale it is usual to employ two agents to secure a permanent emulsion. Acacia is commonly used to form the primary emulsion—that is, to break up the oil into minute globules—and then the cheaper but equally effective thickening-agents, such as Irish moss and tragacanth, are employed to dilute this primary emulsion and prevent separation into two layers.

So long as it does not separate, the thinner an emulsion is the better. We require, therefore, to combine permanence and fluidity, and these two properties are mutually antagonistic. If an emulsion is required for immediate use, it may be sent out much thinner than if it is to be kept in stock for some time. The fact that such a thinner emulsion separates on standing into two layers, but which readily diffuse on shaking, ought not to be held of more importance than the convenience of pouring from the bottle which acrues from it. The cause of this separation in an otherwise perfect emulsion is due, as explained, to too great dilution. If by dilution we reduce the viscosity sufficiently, separation is bound to occur. If the emulsion has been properly prepared before dilution there will be no separation of oil, but the upper layer will be a true permanent emulsion separating from an aqueous layer below. This separation can be retarded by prolonged mechanical agitation in making the emulsion, and the emulsions on the market which are prepared in large quantities are frequently beaten for some hours in an emulsifying-machine. This results in a more perfect emulsification with a relatively smaller quantity of emulsifying-agent, but the observation still holds that must occur. It is quite possible to make a preparation using tragacanth in which we get no separation into two layers, but in this case the oil is not properly broken up into minute globules, and, moreover, its viscosity militates against its popularity. We can also make an emulsion of, say, cod-liver oil containing 85 per cent. by means of a tincture of quillaia, but apart from the physiological action of the latter it is quite impossible to dilute such an emulsion with water without rapid separation of the emulsion into two distinct layers.

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* Abstract of a paper on Colloids communicated to the Notts Pharmaceutical Association.

I have made some experiments with such a separating-emulsion, and the following are some of the results obtained :

> Eight ounces of a castor-oil emulsion, B.P. strength, was prepared and diluted carefully with an equal volume of water. Eight ounces of this diluted emulsion was put into an 8-oz. stoppered bottle and set aside=No. 1 $\frac{1}{2}$-B.P. mist. ol. ric.
>
> The remaining 8 oz. was diluted with another 8 oz. of water and 8 oz. of this set aside=No. 2 $\frac{1}{4}$-B.P. mist. ol. ric.
>
> The remaining 8 oz. was similarly diluted with 8 oz. of water and half of it set aside=No. 3 $\frac{1}{8}$-B.P. mist. ol. ric.
>
> Nos. 4 and 5 were prepared in a similar manner, so that the emulsions were of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, and $\frac{1}{32}$ B.P. strength respectively.

As was to be expected, the weakest emulsion separated most rapidly, then the next stronger, and this order was observed throughout, the strongest, which was half-B.P. strength, separating very slowly. It was readily noticeable that the volume of the separated layer was as near as one could judge inversely proportional to the dilution—that is, the separated layer of No. 5 was about half the volume of that from No. 4, and No. 4 was half that of No. 3, and so on. This led me to expect that the composition of the separated layers would probably be similar, and on estimating the amount of oil in the first three I found this was the case. In all of them the percentage of oil was between 33.5 and 34, or a trifle over one-third. The percentage of gum was also constant. This is interesting as indicating that such an emulsion is a truly permanent one, and it is a matter which will repay further investigation.

West Indian Lemongrass Oil.

By J. C. Umney, F.C.S., and C. T. Bennett, B.Sc., F.C.S.

West Indian lemongrass oil differs markedly from the East Indian oil, but whether this difference is due to climatic conditions or to the use of a different variety of *Andropogon* is not certain.

An interesting article on the wild and cultivated species of *Andropogon* was published by the late Mr. Sawer in the *C. & D.* (July 30, 1904, p. 179), but it was there stated that the West Indian lemongrass had not been botanically identified. The oil described by E. J. Parry (*C. & D.*, September 19, 1903) was exceptionally fine, for present shipments have a much lower specific gravity and contain a lower percentage of aldehydes. A typical sample which we have recently investigated had the following characters :

Specific gravity	0.879
Aldehydes	75 per cent.
Specific gravity of residue unabsorbed by $NaHSO_3$ solution ...	0.863

It was not soluble in 70 per cent. alcohol. This insolubility is characteristic of the West Indian distillates.

Fractionation under Atmospheric Pressure (compared with East Indian Oil).

—	West Indian	East Indian
	%	%
Below 180° C.	Nil	Nil
,, 190° C.	6	,,
,, 200° C.	12	,,
,, 210° C.	23	,,
,, 220° C.	46	20
,, 225° C.	60	64
,, 230° C.	82	82

The West Indian oil, therefore, contains more of the lighter fractions. Citral boils at 228° to 229° C.

Fractionation under Reduced Pressure.

No.	Quantity	Sp. Gr.	Rotation	Ref. Index
	%			
1	20	0.821	Nil	1.4751
2	20	0.872	,,	1.4830
3	20	0.890	,,	1.4865
4	20	0.892	,,	1.4881
5	15	0.910	,,	1.4900
Residue	5	—	—	—

These figures show marked differences from the East Indian oil, as will be seen from the next table.

East Indian Lemongrass Oil.

Specific gravity	0.897
Aldehydes	76 per cent.

Fractionation under Reduced Pressure.

No.	Quantity	Sp. Gr.	Rotation	Ref. Index
	%			
1	20	0.882	−12°	1.4775
2	20	0.893	−2°	1.4840
3	20	0.895	−2°	1.4870
4	20	0.896	−2°	1.4900
5	15	0.899	−3°	1.4885
Residue	5	—	—	—

In the analysis of lemongrass oil it is the custom to absorb the aldehydes by means of a hot saturated solution of sodium bisulphite, and to measure the unabsorbed portion, taking the absorbed portion as citral. The question we now raise is whether the portion absorbed is entirely citral, and our experiments tend to show that in the West Indian oil it is not. The case is analogous to that of citral in lemon oil. It has been shown by English chemists that lemon oil does not usually contain more than 3.5 to 4 per cent. of citral, although certificates are still issued by Messina analysts showing 7 per cent. of citral. The error is due to the method adopted for the estimation.

In West Indian lemongrass oil the specific gravity of the unabsorbed portion is considerably higher than it should be by calculation if the whole of the absorbed portion were citral, with a specific gravity of about 0.900. Of course this may be due to increase in density caused by the action of the bisulphite solution.

In the course of a number of experiments we find that the quantity absorbed varies according to the length of time during which the mixture of oil and bisulphite solution is immersed in the water bath. This variation is probably due to the presence of a body which is more slowly absorbed than citral. Concordant results are obtained when the time of absorption is limited to one hour.

In the case of lemongrass oils adulterated with citronella and other grass oils, or distilled from a mixture of grasses, this variation also occurs, but in this instance the difficulty arises from the slow decomposition of the solid bisulphite compound formed, three or four hours being sometimes necessary for complete solution in order that a clear residual layer may be obtained.

Our investigation on the aldehyde constituents of West Indian lemongrass oil is incomplete, but we hope to continue our experiments and publish the results at some future date.

The Care of Surgical Instruments.—To remove rust from surgical instruments place the articles in a saturated solution of stannous chloride overnight and the rust will have disappeared by reduction. Rinse the instruments in hot soap solution, finally immersing in absolute alcohol, and dry. Paraffin is the best preservative against rust, and is used to greatest advantage in solution. One part of heavy petroleum oil is dissolved in 200 parts of benzine, and the instruments, quite dry, are plunged into the solution. The grease penetrates all the joints and remains when the benzine has evaporated.

Where Citronella and Nutmegs Grow.

A Visit to Hardouin's Estate in the Malay Peninsula by a Penang Pharmacist.

THOSE of your readers who have occasion to follow the market reports in the *C. & D.* may have seen from time to time mention of sales of Hardouin's essential oils. It was the privilege of the writer recently to visit the estate where these are prepared, and this short account may interest chemists. The property covers over 300 acres, and is situated in Province Wellesley, a strip of territory on the Malay Peninsula, opposite the island of Penang, and is reached from the latter place in two hours by a combined journey on steamer, railway, and shandradan—a two-wheeled vehicle drawn by a pony.

On reaching the estate our olfactory organs are able to detect a fragrant odour in the atmosphere. We are greeted by the genial proprietor, who looks hale and hearty, and has not apparently suffered from a long tropical residence. Mr. Hardouin is of Anglo-French descent, and tells us the estate has been in the family about fifty years, and from a very small beginning has been worked into a very valuable property, notwithstanding the vicissitudes of agricultural life.

It is safe to say that there are few places where such a variety of economic products can be seen, for here are nutmegs, cloves, lemongrass, citronella grass, Liberian coffee, cocoa, tapioca, Pará rubber, not to mention the ever-present coconut and betel-nut palms and many kinds of indigenous edible fruit. The proprietor informs us that all his labour is done by free Tamil coolies, whom later we see at work preparing the land for rubber-trees, of which many thousands are already planted.

We now make a detour round a series of small hills on the estate. The slopes are planted with citronella grass, lemongrass, coffee, rubber, nutmegs, and cloves. The citronella grass is ready to cut, and it certainly looks in good condition, for in one place, where our path lies, it is 3 ft. or 4 ft. high. Once a year the plant flowers. It is propagated by detaching a root-stock, and in five months is in condition to cut. Afterwards harvests are obtained regularly at intervals of three months. There is nothing characteristic about the look of the plant. It is a large coarse grass, but smelling the leaf or crushing it soon betrays its nature.

The Betel-nut Palm (Areca Catechu).
Citronella grass in the foreground. The three small palms are young coconut-trees.

On asking the proprietor why the Chinese cultivate nutmegs and cloves on the Penang hills at fairly high altitudes, he replied, without a twinkle in his eye, that these trees like a sea-breeze, and they certainly get it here, for on looking down we observe the sea a few miles away. Some nutmeg-trees on the estate were reckoned to be fifty years old, and were as many feet high. There are very few, however, that escape the disease which decimated the spice-trees in these parts twenty years ago. The appearance of the nutmeg-fruit must be familiar to all chemists. When the pericarp dehisces the fruit is ready for picking. There are two good harvests in the year. The mace is detached from the nut, and both are then dried, and, thanks to the eternal sunshine, it is never necessary to use other than natural heat. The cloves are the green unexpanded flower-buds, and rapidly change to brown on drying. Both these are reared from seed; in the case of the clove the "mother-clove" is, of course, allowed to form. Five years after planting a nutmeg it begins to give fruit, and from then onwards increases in bearing. The nutmeg-tree is peculiar in the fact that it may bear only hermaphrodite flowers or only staminate. As the latter are useless for the purpose of fruit-producing the plant is destroyed, but it is only possible to determine the sex when the plant begins to flower.

Liberian coffee has been practically abandoned, on account of the low market-price, and Mr. Hardouin finds that other things pay him much better.

The betel-nut palm (*Areca Catechu*) is a beautifully straight, tall, and graceful palm, quite respectable in comparison with the often shabby-looking coconut palm. The fruit is borne in clusters several feet below the tuft of dark-green leaves which crown the stem, and is of an orange colour, about the size of a small egg. What is seen in the pharmacy is the kernel, used so largely by native races.

By now we have returned to the house. We have a brief glance at the distillery, and, knowing that our guide wishes to keep matters connected therewith secret, we simply listen to what he chooses to tell. The plant was made and erected by Mr. Hardouin's father, a typical Frenchman, who was at one time coppersmith to the many sugar-estates which existed in the Province. When distillation is being done it is carried on night and day, and it is the impression of the visitors that Mr. Hardouin gets twenty-four hours' work into every day, for it is surprising how the whole of the detail work of the estate, from the roll-call of the coolies to the distilling, is supervised by himself.

The oil turned out from this estate is well known and esteemed, yet, as far as the writer could gather, Mr. Hardouin makes no pretension to special knowledge of the chemistry of essential oils. He relies for quality of output upon good material to start with, and careful manufacture with modern plant. This is mentioned in order to point out that in the opinion of the writer the day will come when a chemist on an estate or serving a group of estates will be almost as necessary as an engineer. Like our own craft, Mr. Hardouin believes in a profitable side-line, and is an experienced pattern-maker and coppersmith. The affairs of the estate, however, now take so much time that this work has had to be given up in part, but he still makes the large copper boiling-pans used by the opium-farmers in preparing chandu.

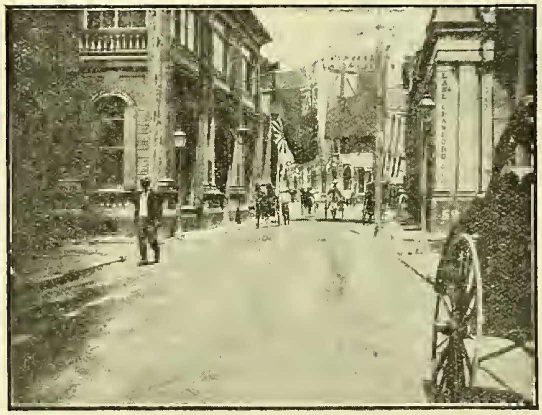
In the dining-room we noticed several certificates of merit, awarded for excellence of essential oils at the Sydney, Melbourne, Paris, and other exhibitions.

The Little Boy ran crying to his mother, rubbing one of his eyes. "Well, what did the chemist say?" she asked. Tommy replied: "He said I had got a foreign substance in my eye, mother." "And I don't wonder at you getting a foreign substance, seeing that you will persist in playing with the Italian ice-cream man's boys."

Pharmacy in Japan.

ALTHOUGH we have on several occasions during the past decade published accounts of Japanese pharmacy, it may with fairness be said that the stranger in Japan knows little about the Japanese drug-trade, and sees little. Even British pharmacists resident in the Island Empire rarely come into touch with their Japanese *confrères*, and we are told that The Chemist and Druggist frequently gives the first information in regard to many things pharmaceutical in Japan. One reason for this is that a Japanese pharmacist regularly sends us those Japanese jottings which are a unique feature in English journals of pharmacy, and to him we are indebted for three photographs now reproduced. First we have a portrait of Mr. Ihachiro Shiomi, a pharmacist of distinction in Japan, who founded the Osaka School of Pharmaceutical Science, and has done much to advance the practice of pharmacy and to conserve the interest of the drug trade in his province. Mr. Shiomi is the proprietor of the "Sowraku Shimbun," which is the Japanese equivalent of ourselves, and the frequency with which we see the words "Chemist and Druggist" in its otherwise cryptic pages indicates hat it gathers light rom 42 Cannon Street The "Sowraku Shimbun" celebrated its fifteenth anniversary by entertaining its staff and friends to dinner in an Osaka restaurant on November 10, 1906. Several photographs of the scene have been sent to us. One of them shows a company of over two hundred persons, mostly pharmacists and druggists, seated in their own fashion on small mattress-like cushions, little charcoal stoves being near some of them; yet the sunlight streams through the garden end of the dining hall. Another photograph shows Mr. H. Mori reading an address of congratulation. He and several gentlemen near him wear European costumes, with frock-coats, and all of them stand in their socks—an indoor custom, we presume, for in the group on the next page it will be noticed that European or Japanese boots are worn. The group comprises the staff of the "Sowraku Shimbun," and was taken outside the restaurant in which the party dined.

Mr. Shiomi.



A Yokohama Street.

The other large photograph takes us to a warmer season, and should particularly interest those chemists and their wives in this country who indulge in such frivolities as summer outings. Here we have an excursion party of "famous chemists and druggists of Tokyo, Osaka, and Kyoto" at Nunobiki Waterfall, Kobe. Although we have had to reduce the photograph somewhat, we think our readers will have little difficulty in picking out faces of which there are doubles in English pharmacy. Even the ladies' faces suggest others we have seen on B.P.C. excursions.

In contrast with these purely Japanese scenes, we reproduce one of our Christmas-greeting cards from a subscriber in Yokohama, which shows the street in that city where Messrs. North & Rae's pharmacy is. In Japanese cities, which are open to European traders, reservations of location are appropriated to them. Messrs. North & Rae, Ltd., occupy the building to the left, and this photograph was taken on a festive occasion when the business-houses put out their national flags. The Union Jack, Stars and Stripes, and the Japanese flags may be observed. The subscriber who sends this tells us of the incongruity of being in business in Japan, and registered as pharmacists according to Japanese law, yet ignorant of its Pharmacopœia and its pharmaceutical affairs. This is of course owing to the fact that English and other European pharmacists in Japan are there to do business with their own countrymen, and have no need to cultivate Japanese custom.

THE ERRAND-BOY MILITANT.

The finest game I ever get
Is fighting Blinks's boy;
To take him down a peg or two
Is just what I enjoy.
I don't like thrashing *other* kids,
But Blinks's got such cheek
I must warm up his little hide
'Bout twenty times a week.

I often meets him on my rounds
With his silly, stuck-up look.
To sit on yer basket and hear him jaw
Would drive yer off yer 'ook.
He says 'ow "'im an' the boss" does this
And "'im an' the boss" does that;
You'd think the two of 'em dosed the town
All off of their bloomin' bat.

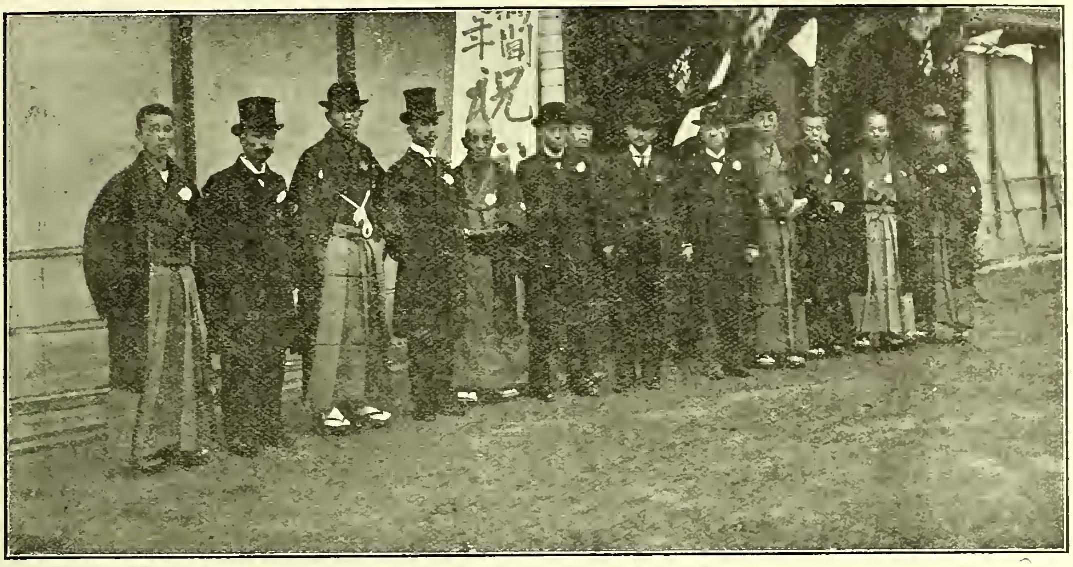
Last Saturday night we had a row
About his silly shop;
He tried to trip me right away,
And fell—with me on top.
I grabbed a syphon an' hung it up
To his collar, by the spout,
And then I pressed the handle down
Till the last drop fizzled out.
My word! He looked a proper sketch—
You should have seen him leak!
I was that done with laughing
I couldn't 'ardly speak.
He wandered home to dry hisself
As limp as he could be:
I reckon he won't brag no more
About his shop to me.

I told our senior, Smith, the joke;
He told the boss's daughter;
She told the boss, who blowed me up
Fer wasting soda-water.
He called me names I won't repeat—
I'll write 'em with a hyphen.

- - - - - -

But he laughed an' give me threepence when
I said 'twas Blinks's syphon.

It was a lecture delivered by a learned purveyor of liver pills, and illustrated by diagrams of the frame of man. "That," he explained, pointing out a totally different spot, "is where a man's liver is." "Excuse me," observed the man in spectacles, "but I am a surgeon, and that's not where the liver is." "Never you mind where his liver is," retorted the lecturer. "If it was in his big toe, or his left ear, my pills would reach it and shake it for him."



The Staff of the "Sowraku Shimbun."

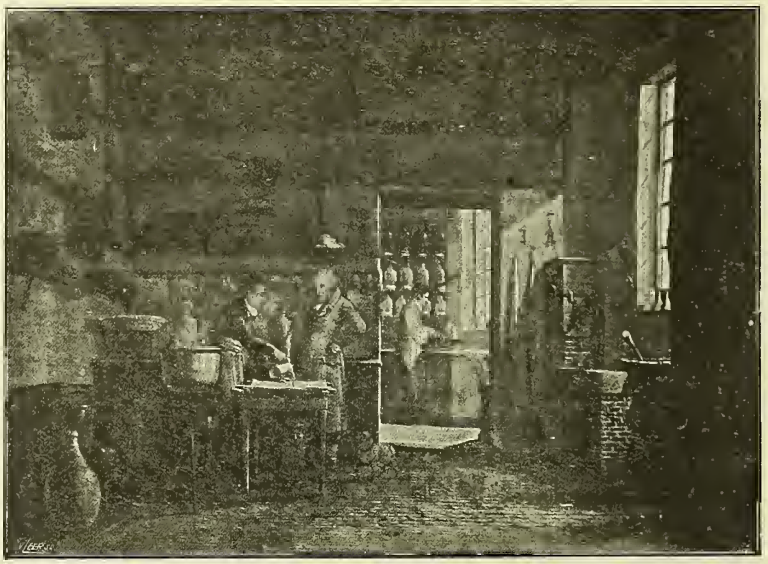
A Pharmacists' Summer Outing in Japan.

Cinchona.

Some of the Pioneers who helped to stop the decay of the World's supply of Quinine by transferring the source of Cinchona from the Andes to the Orient.

"THEY do these things better in France," was the saying that naturally occurred to the writer when he picked up on a Paris bookstall a beautifully printed monograph on the history of cinchona and its cultivation. From it these notes and pictures have been culled, and although they tell a story with which many in the drug-trade are familiar, the younger generation at least should also know it, for there is no fact more deserving of reflection than this: if the world had continued to rely upon South America for its cinchona, and consequently its quinine, that invaluable medicine would to-day be worth more than its weight in gold, and instead of being the most popular remedy in the world it would have been only a panacea for princes of wealth.

It was in 1639, says our French monograph, that "polvo de la Condesa" first became known in Europe, some samples having been sent to Madrid by the Countess of Chinchon, wife of the Spanish Viceroy in Peru, who had been cured of a tertian fever in the previous year. Why should the secret of the remedy not become known until more than a century after Peru was discovered? The legend runs that the Peruvian Indians had bound themselves, under pain of death, not to reveal to the Spanish oppressor the existence of the drug which alone could enable them to live in the climate of these regions, and eventually it was only betrayed through the love of an Indian handmaid for her young mistress, who lay dying of fever.



THE LABORATORY OF A WORLD-FAMED PHARMACY.
Here quinine was made in 1823, three years after its discovery by Pelletier and Caventou.

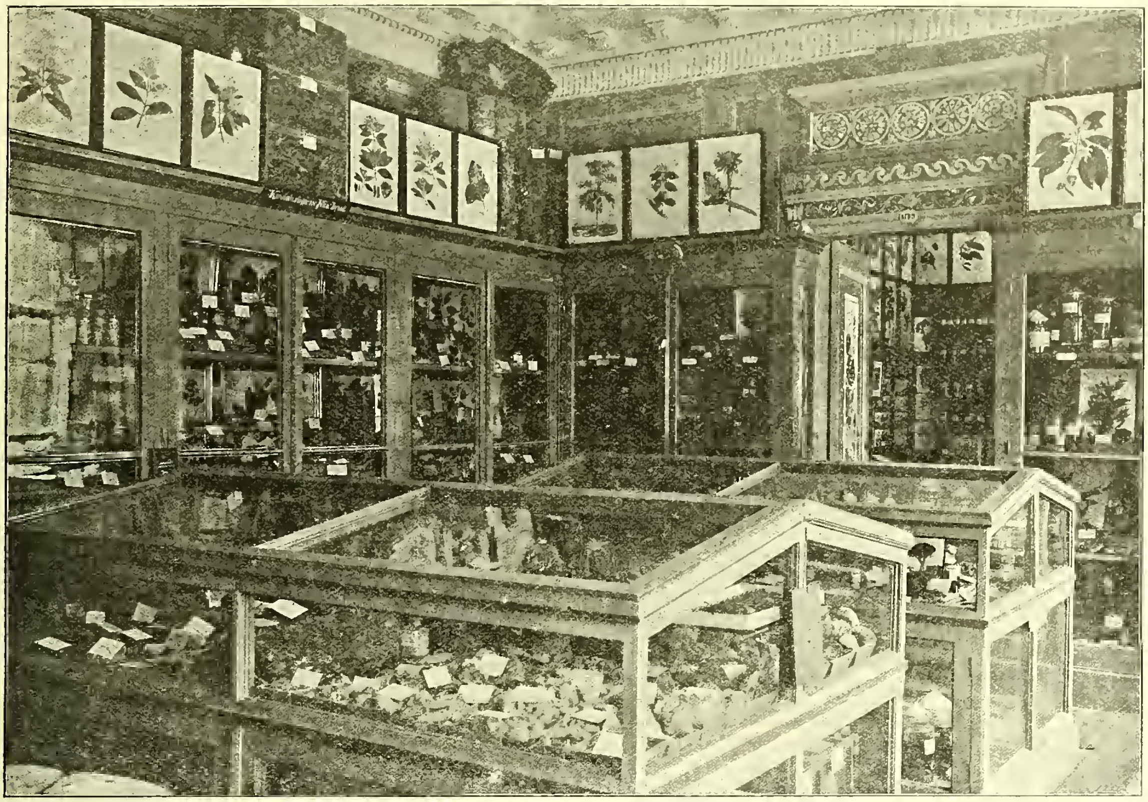
In Madame de Genlis's "Zuma" (which was dramatised in 1836 and drew all pharmaceutical Paris to the Gaité Theatre) the Indian girl is the slave of the Countess of Chinchon herself. The synonym "Jesuits' bark" implies a different origin of discovery, but let us adhere to the more romantic one.

Cinchona seems to have found its way to England about 1655 as the "excellent powder known by the name of the Jesuits' powder." One Robert Talbor, or Tabor, a Cambridge apothecary, had a good deal to do with making the properties of the drug more intimately known. He made a cinchona-wine which brought him fame and fortune, for he kept its exact constituents a secret and charged 16*s.* a dose for it, the bark at that time (1672) costing about 8*l.* per lb. See "Pharmacographia" for further particulars of Tabor, who became physician to Charles II. and a knight. A memorial to him is in Trinity College, Cambridge, and describes him as "Febrium malleus."

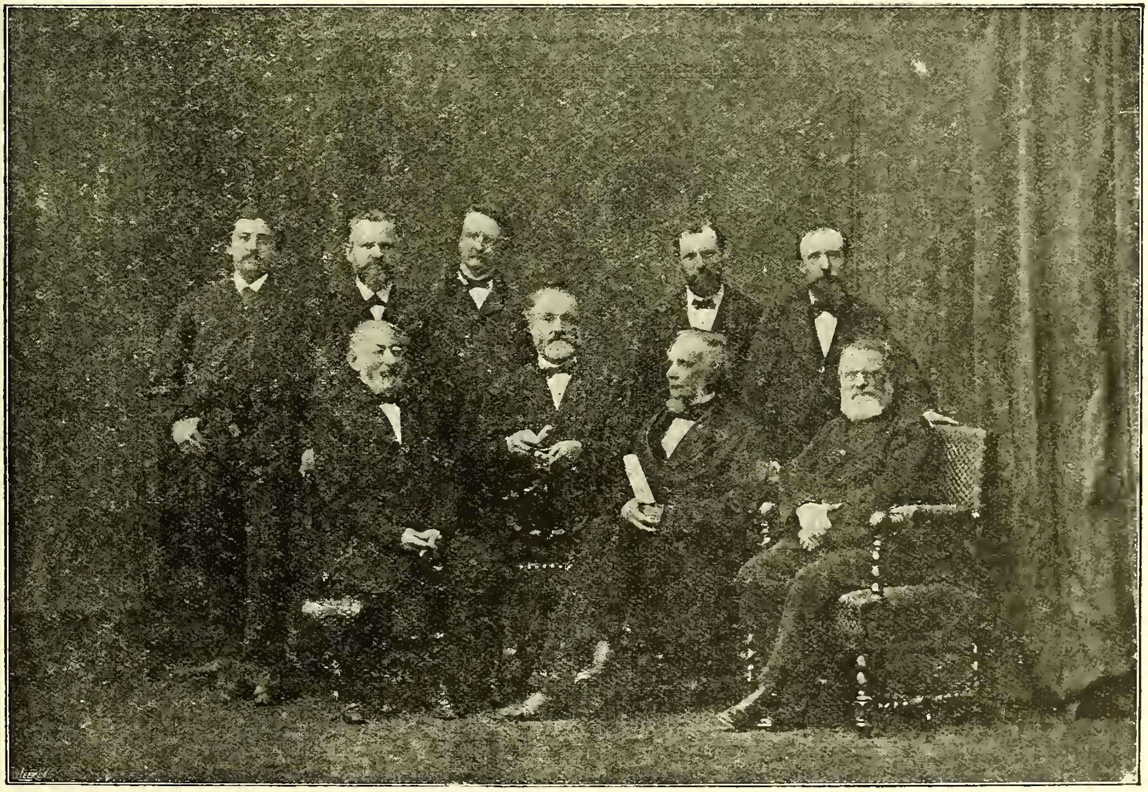
Until fifty years ago the world depended for its supply of cinchona on the "cascarilleros" of the South American forests. They ruthlessly felled or carelessly barked the trees, with the result that the diminished supply fell short of the ever-increasing demand. The remedy was self-evident: to cultivate the cinchona in the tropical colonies of European States. But the task of studying and selecting suitable species and obtaining and transporting healthy living plants proved arduous. A small *Cinchona Calisaya*, raised from seeds brought by Weddell from Peru, existed at Paris, and was bought by the Dutch Government in 1851 and shipped to the East Indies. It arrived in a deplorable state, but shoots were obtained and replanted, and the first cinchonas were thus raised in the Dutch Indies. But the species proved poor in quinine, and the problem of large and profitable production remained to be solved. The Dutch Government bent all its energies to the task, and the adventures of its emissaries would suffice to fill this Winter Number. The jealous vigilance of the South American States, anxious at all costs to retain their lucrative monopoly, the deadly fevers of the regions, the delicate task of transportation and transplantation, were difficulties all to be overcome by steady effort and dauntless energy. Hasskarl, the Dusseldorf botanist, presented himself at Lima as "Mr. Müller," a traveller anxious to explore and map certain rivers. After long and weary journeys he secured some sixty young cinchonas and one thousand seeds. The latter arrived in Holland; the former were stopped for five months at Panama, and all died. A second pilgrimage enabled him to procure four hundred Calisaya plants, which he cut and packed like bales of wool and forwarded to Panama. Thence the Dutch man-of-war *Prins Frederik* carried them to Java, where on arrival seventy-five surviving plants were planted at Tjibodas (close by where the thousand seeds had been sown), and cinchona-culture in the Dutch East Indies was an accomplished fact. Although ten years later the *C. Calisaya* were practically abandoned in favour of the *C. Ledgeriana*, Hasskarl must be regarded as the pioneer of Dutch cinchona-cultivation.

The British Government had not failed to appreciate the importance of the matter, and had in 1852 obtained a few cinchonas through its Consuls in South America, which were planted in India without success.

Sir Clements Markham, then a Spanish-speaking clerk in the Colonial Department, made a vigorous and well-planned effort in 1859, aided by Spruce, R. Cross, Pritchett, and J. Weir. Markham got 529 shrubs, which died before arriving in India, but Spruce and Cross obtained 463 specimens, which were planted in 1861 in Ootacamund Gardens, near Madras. Spruce's success was gained at the price of paralysis, but Cross continued the effort, and, in spite of the severe penalties imposed by the Ecuador authorities, returned from his second expedition with 100,000 seeds of *Cinchona officinalis*, gathered by himself on the lofty sum-



The Cinchona Collection in the Haarlem Colonial Museum.



A Group of Noted Quinologists.

The names from left to right are (standing) Julius Jobst, G. Kerner, H. A. Weddell, Gustave Planchon, A. J. Rijk, (sitting) P. Phœbus, J. E. de Vrij, J. Eliot Howard, and J. K. Hasskarl. These formed the jury of the International Botanical Congress held at Amsterdam in 1877.

mits of the Sierra Cajunuma. Then came the efforts of a merchant, the late Charles Ledger, who in 1865 obtained a parcel of seeds of the great quinine-yielding cinchona with which his name is now linked. Ledger divided his seeds between the British and Dutch Governments. The former seem to have done nothing with them (thereby losing for Britain an important industry), while the Dutch used them as their great value demanded. So precious were the seeds that each was carefully planted in a flower-pot or joint of bamboo, covered by glass, and placed in a saucer of water, and only transplanted when it had germinated and developed.

Nowadays some six hundred seeds are sown per square yard in carefully prepared beds of sand, sheltered by a roof of bamboo and fern from the sun and rain. As the young plants grow up they are twice transplanted (first at 10 ft. apart, afterwards at wider intervals), the shelter being reconstructed in each case, but gradually made lighter and lighter, and finally (when the young plants are considered strong enough to bear the heat and wet) removed altogether. The question of hybridisation has been carefully studied, for it has been found that the most valuable species are often the most delicate, and the planter's aim is naturally to produce a plant which shall combine the robust nature of the commoner species with the productive value of the less vigorous kinds.

In harvesting the bark the trees are stripped by longitudinal incisions about a yard long, at varying distances, followed by transversal cuts, a bone knife being used for detaching, to prevent the contact of metal with the juice of the bark. The peelings are first placed on "panagans" or bamboo trays. and dried in the sun. A movable roof or protection of some kind is provided in case of rain during the process. The moist climate of Java prevents the drying being altogether done naturally, and a "sirocco" stove, such as is employed on tea-plantations, is generally used. This explains why the inside of Java bark is brownish-yellow (*C. Calisaya* or *C. Ledgeriana*) or reddish-brown (*C. succirubra*) when it reaches the European market. As a matter of fact, when stripped from the tree, the bark is very much the same tint as the sun-dried barks which reach us from South America. The rolls of bark are sorted into pieces of the same size and colour as far as possible, and carefully packed in cases. The fragments are ground into rough powder and put up in large bales. Buffalo-carts or ponies convey the drug to the nearest port of embarkation. In the days when South America supplied the world with bark, Bordeaux, Paris, Hamburg, and New York were all centres; but nowadays the trade is divided between London and Amsterdam, and the importance of the Dutch East Indian plantations has had the natural result of assuring the supremacy of the latter port.

Cinchona is also cultivated in India, the Portuguese island of St. Thomas (Africa), and, of course, South America, but the world's record is held by Java, and Ceylon has practically ceased to grow the tree. One of the illustrations which accompanies this is of the museum at Haarlem, which contains one of the finest collections of cinchonas in the world, and it is strange to reflect that, saving a dozen specimens, or fewer, the barks displayed are useless commercially; but they represent the gropings of many men to get the best of cinchona and to alleviate a scourge which at one time afflicted every country in the world, until improved sanitation banished many ailments politely termed "fever."

Japanese Ginseng.

ONE of the most important and valuable of the medicinal plants grown in Japan is ginseng, the root of which is highly valued in the East as an aphrodisiac and tonic. The Chinese are the principal consumers of the drug, and they have implicit confidence in its virtues. The extent of the trade may be judged from the fact that the annual exports from Japan alone exceed 300,000 lb., most of which goes to China. Ginseng is found in Japan both in the wild and cultivated state, the former being much sought after by ginseng-gatherers, who annually scour the mountains. When a wild plant is found its age is carefully noted by observing the amount of foliage. As a rule a plant of one-year's growth has only one trifoliate leaf on a short stem, and in the second year two similar leaves. In the third or fourth year the root is sufficiently matured to be dug up and prepared for market. In Manchuria and Korea, on the other hand, ginseng does not reach maturity until the seventh year. If the wild plant is found young, it is usually dug up and transplanted in the vicinity, the transplanting causing it to grow more rapidly. Root which matures in an entirely wild state is reckoned the more valuable. Most of the ginseng grown in Japan is grown from seed sown in narrow beds in the valleys among the mountains. After the matured roots are dug up they are washed in cold water, and every particle of earth removed by a soft brush, great care being taken that the epidermis is not bruised. They then undergo a long process of steaming, during which a coating of sugar-syrup is frequently applied until they are sufficiently sweetened. The roots are subsequently removed from the steamer and spread on trays to dry in the sun, after which they are usually baked for several days in kilns.

TRUE GINSENG.

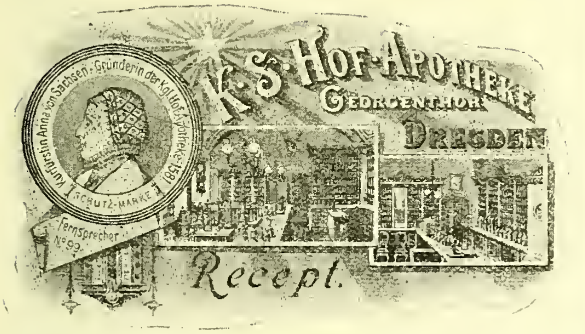
FALSE GINSENG.

A GINSENG-PLANTATION IN SHINANO.

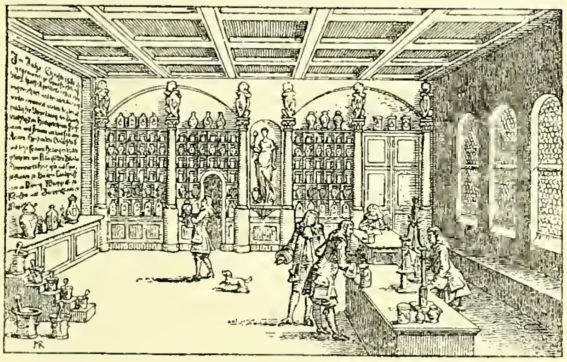
The Saxon Royal Court Pharmacy.

It is with pride that many German pharmacies can point to their privileges granted them in the fifteenth and sixteenth centuries; but few can boast of such an exceptional position and historic past as is enjoyed by the Saxon Royal Court Pharmacy, its fortunes having been intimately bound up with those of the royal house.

After the upheaval caused by the Reformation, the Princess Anna, a daughter of King Christian III. of Denmark, entered Dresden as the wife of Elector Augustus of Saxony in 1548. The seventeen-year-old Electress brought with her from her Danish home a profound knowledge of medicine, and she devoted most of her time and energy to the healing of her dependents; and to the present day the name of "Mother Anna," as she was affectionately called by her people, is a household word in Saxony. As time progressed, the many illnesses of her own children brought her into contact with many of the foremost physicians of her time, and she even sought advice of the motley crowd of quacks, hangmen, old miners, butchers, and old women on whom the people at large were at that time dependent for medical advice. Her chief confidant, however, was Dr. Paul Luther, a son of the great reformer. The privileged position enjoyed by alchemy at the Saxon Court (her husband himself an eager alchemist, who, in a letter written in 1577, says "that he has reached the stage of being able to transmute eight ounces of silver into three ounces of pure gold") attracted her interest and gave her the impetus to prepare and herself concoct the medicines she dispensed. Her increasing fame as a healer necessitated the erection of a special laboratory in the Castle of Annaburgk, where the Electress herself made her remedies, consisting principally of various distilled spirits. Soon the work proved too much for her, and she had to call an apotheker to her assistance. In 1581 the pharmacy was moved to Dresden, and the Hofapotheke as such dates from this time—previously it had simply been the private pharmacy of the Electress.



Prescription-envelope,
Showing a portrait of "Mother Anna" (trade-mark) and interior of the pharmacy.



Interior of the Pharmacy.
(From a woodcut made in 1669.)

In the patent granted on May 7, 1581, to Andreas Peissker, the Electress graciously permitted him to keep it open for use by the public. The Hofapotheker had to take the oath as follows:

> All medicines required by Us, Our dear husband, and young masters, females, and attendants of Our Court to prepare himself. To distil the waters, make sugar confects and other things as We may command him truly, diligently, and cleanly. To lie no night without Our knowledge outside the Palace, to guard jealously the keys and to keep secret to the depths of his heart what he may see and learn from Us, guard himself from being filled with too much wine.

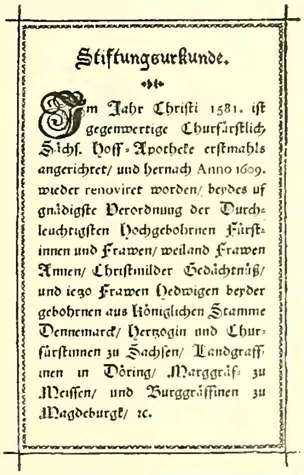
He received as salary 400 florins, and for himself and household free housing, wood, and coals.

The Hofapotheke proved a flourishing concern, and had a turnover of some 30,000 florins—a very large amount in those days.

With regard to the takings a very simple arrangement was made: all the money was thrown into a box, of which the Elector and Peissker each had a special key. Every Saturday the contents were counted, the expense of the business being first deducted, and the remainder divided into three parts, two of which went to the Elector and the third to the Hofapotheker, as "a gracious reward for his pains and diligence." The Hofapotheker and his assistants wore long flowing wigs, swords, and buckled shoes, the Hofapotheker alone being allowed to wear the cinnamon-brown coat-of-honour. The assistants received their food from the Court, each meal being of three courses with a jug of wine, besides a further daily allowance of six jugs of beer and ½ lb. of tallow candles weekly. The salary was thirty thalers a year (90*s.*).

The business of the Hofapotheke soon proved to be a most remunerative source of income to the Crown, especially as most of the drugs had to be delivered free by the royal gardeners.

The Hofapotheke was one of the sights of Dresden. In his book of travels Charles Patin, an Englishman, mentions that in it are to be found as many remedies to make mankind well as are to be found in other pharmacies to kill. It is revolting to present-day ideas to observe the nature of the remedies that were given to patients. A catalogue of the Hofapotheke of [illegible] mentions roasted toads, young goats' lips, prepared human skull, human, wolves', hares', foxes', and pikes' teeth, little cloths dipped in hares' blood, dried human blood, burnt cats' hair, dromedary's fat, and spirit from the brain of a man executed by the sword. All these wonderful remedies were kept in precious silver boxes. These boxes, however, found another use when in the Seven Years' War they were taken from the Hofapotheke and melted down to provide the sinews of war. Only a small plain box is left, containing a couple of "perpetual pills." These were made of antimony, and



Stiftungsurkunde.

Im Jahr Chriſti 1581. iſt gegenwertige Churfürſtlich Sächſ. Hoff-Apotheke erſtmahls angerichtet/ und hernach Anno 1609. wieder renoviret worden/ beydes uf gnädigſte Verordnung der Durchleuchtigſten Hochgebohrnen Fürſtinnen und Frawen/ weiland Frawen Annen/ Chriſtmilder Gedächtnüß/ und ietzo Frawen Hedwigen beyder gebohrnen aus Königlichen Stamme Dennemarck/ Hertzogin und Churfürſtinnen zu Sachſen/ Landgräffinen in Döring/ Marggräf- zu Meiſſen/ und Burggräffinen zu Magdeburgk/ ꝛc.

The Document of Foundation of the Saxon Royal Court Pharmacy.

after passing through the patient's body were used again *ad infinitum* (it was thought), and this explains the name.

The emblem of the pharmacy was a stag's head, on which hung a small gold chain with a jewel, a pair of tiny gloves embroidered with pearls, a key, and a pair of silver shoes, presented and partly made by the Electress Anna. This stag's head represented cheerfulness, the gloves cleanliness, the chain and jewel the purity of the drugs, the key secrecy and fidelity. These are the only relics of that period which are preserved to the present day, except the rose of Jericho, brought back from the Holy Land by the Elector in July 1687 and presented to the Hofapotheke as a mark of esteem. Two of Mother Anna's prescriptions—viz., the "Mother Anna laxative and blood-cleansing pills" and the "Prinz Friedrich teething-powder"—are still in great demand. The formulas are jealously guarded as a secret. Essential parts of these prescriptions must be prepared by the Hofapotheker himself, and he must hand the formulas to his successor, who has to swear a special oath never to divulge the same.

With the eighteenth century began a period of trouble for the Hofapotheke; the expenses exceeded the profits, and it may be mentioned that a special official was kept to collect outstanding debts. In 1704 the Hofapotheke was burnt down; but the splendour-loving King Augustus the Strong had it handsomely renovated in 1718, and the few still remaining stock-jars with beautifully enamelled Saxon and Polish coats-of-arms show what it must have been like.

In documents of the period we find repeated allusions to the strained relations existing between the Hofapotheker and his assistants. On one occasion the Hofapotheker Dassdorf was mauled with a long wooden spatula, "such as is used for mixing ointments." It is strange to note that these personal differences came directly before the sovereign, who personally acted as arbitrator. With the beginning of the nineteenth century the business was found to be in a bad condition, and it was decided to lease the pharmacy. Up to that time it was a model institution, and enjoyed the privileged position of being immune from the laws that governed other pharmacies. This latter privilege gave rise to differences with the Commission for the Revision of Pharmacies in Saxony, which ended in the victory of the Commission, who then made a triumphant entry into its precincts. The result of this visit was the inauguration of drastic reforms. In their reforming zeal they cleared out the valuable and costly stock-jars, and the original emblem found an ignominious end in being sold for the sum of 1½*d.* !

The three-hundredth jubilee was celebrated in 1881 by great festivities, the high officials of the Court being present. King Albert of Saxony made an official visit on Whit Monday 1882, and in memory of his visit he presented his signed portrait to the Hofapotheke and replaced the emblem by a stag which had been shot by himself. In the present day official visits are occasionally made by members of the Royal Family, the last occasion, just before Christmas, by Prince Henry Ernest, the youngest son of the present King, Frederick Augustus III., who was greatly impressed by the process of distillation.

At the present time the Hofapotheke is one of the most important apotheken in Germany, having an important homœopathic department and also a large laboratory attached, one important feature of its business being its large export trade. It is situated in the Schlosstrasse, in that part of the palace exactly opposite the young princes' schoolroom, and their Highnesses often evince great interest in its doings. The apotheke is also overlooked by his Majesty's private apartments.

The writer of this article, who has charge of the private pharmacy in the Castle in Pillnitz, which is opened in summer during the residence of the Royal Family, still enjoys a few of the ancient privileges—viz., free residence in the Castle, coal, light, and wood, and an allowance of one candle per day, access to the royal gardens at all times, and he is presented with a bottle of wine from the royal cellars with which to drink the King's health on his Majesty's birthday.

G. P. Forrester.

At the Apothecaries' Assistants' examination. Examiner: "Have you ever made potassium iodide?" Candidate: "Yes, sir." Examiner: "Then I presume you also come from Birmingham."

The Italian View.

An English chemist in Italy sends us the following literal translation of an article by a leading Italian pharmacist which has recently appeared in a journal of pharmacy there. We print the trifle as an example of a style that we do not ask our readers to imitate.

The tendency of the present day, with the profession of Pharmacy as with all other callings, is to relegate into the hands of few the productive function; thus diminishing the utility of the Pharmacist in modern society.

Is the Pharmacist, then, irresistibly reduced to the humble office of a common shopkeeper—an intermediate parasite 'twixt producer and public? Is he destined, therefore, to disappear as an individual economic factor—a prelude to the advent of socialistic production, then to be absorbed as a public functionary in the Municipal or Governmental Pharmacy?

This is the burning question of the day, which we will not now attempt to analyse, but the clear consideration of which must drive the whole class to unite and organise in some great and dignified aim of moral and material elevation. But the zeal and enterprise which infallibly lead to victory are entirely lacking where there is no feeling or consciousness of our own worth, and, unfortunately, from this point of view, we have certainly fallen very low!

Above all, we have no great ideal—the aspiration after a higher grade of culture, be it general, technical, or scientific. That culture which, if realised, would lift us above the standing of an ordinary shopkeeper; that vast and varied eclecticism which made of our predecessors the valued counsellors, the trusted confidants, the moral helpers of their clients, not only in their physical trials, but in those of their social life as well; which made of a Pharmacy a scientific and political centre, the diapason on which the vibration of the social world was toned.

And this is no exaggeration; scientific discoveries and the study of nature's philosophy had at one time their most strenuous promoters among Pharmacists.

The Royal Society of London and the Academy of Paris, before they had a settled abode, held their meetings, the former in Cross's Pharmacy at Oxford, the latter in Geoffroy's Pharmacy in Paris. In Italy the Accademia della Crusca was born in a Pharmacy. In the Via Tornabuoni a marble slab marks the house in which lived Lasca, in the backshop of whose Pharmacy the first academicians met.

Chemistry, that vast and profound science which we may call the substratum on which modern technical industry and science are built, which led man to make the most sublime discoveries in the study of nature, by which he was able to explain the mysteries of the cosmic world, from the evolution of the stars to that of minerals, plants, and animals; the mechanism of the cerebral centres. Chemistry, which from the high spheres of speculation descends to the humble offices of universal provider of human aliment, which penetrates every action and motion, every step in the evolution of the world, had its origin in the laboratories of the Pharmacy.

It was the great work of the alchemists, those medieval seekers for the Philosopher's stone, the transmutation of metals and the Universal Panacea, who without finding them, gave us H_2SO_4, HNO_3, aq. regia, Sb, Bi, Zn, P, As, and many of the principal metallic salts, alcohol, ether, gunpowder! and by the study of these bodies the mists of alchemy were dispelled; then by the work of other Pharmacists the sun of chemistry rose, and we have Beguin with HgCl, Glauber with $NaSO_4$, Homberg with boric acid, Lencry who founded the first course of chemistry, Margref who revolutionised industry and society by the discovery of beet-sugar, and Rouelle, Lavoisier, and Wenzel; Dalton with his atomic theory, Lussac with wet analysis, and Scheele the humble and great who discovered O even before Priestley!

Politico-social history is a product of industrial evolution, according to sociologists.

Well! It is perfectly true the manufacture of indigo, Na, soda, sugar and many other domestic and technical products was the work of the intellectual effort of humble Pharmacists.

In every branch and in all the wanderings of human production and discovery you find the work of the Pharmacist the symbol of Science and activity, Daguerre in photography, electrolysis with Davy while a pharmacist. All sprung from the Pharmacists' laboratory. What else? Dante himself was enrolled in an Apothecaries' guild! Newton an assistant Pharmacist! And if that does not imply that the Divine Comedy and the Law of Gravitation were produced from specie-jars, it means at least that Pharmacy was once the fulcrum of intellect and science, the lighthouse of progress.

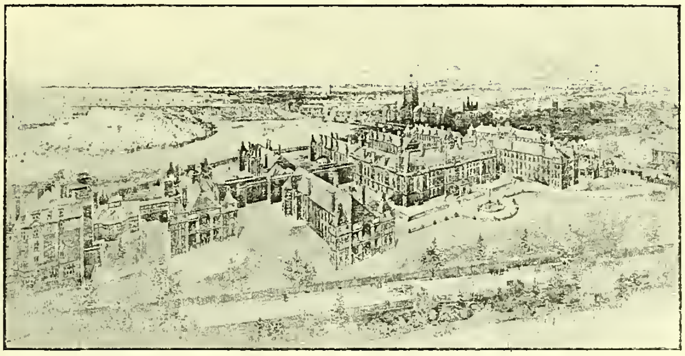
We need, therefore, among ourselves a covenant of light, the light of culture, of love for all the manifestations of science, whence, like Lucretius, we shall raise from the intoxicated soul a Hymn to Nature!

Dispensing in a Modern Hospital.

Notes on a Visit to the Royal Victoria Infirmary, Newcastle-on-Tyne, with an account of the Dispensary and its Manufacturing Laboratories.

ONE pouring wet day last summer King Edward VII. did two notable things on his way to Scotland. *Imprimis*, the train by which he travelled was the first one of passengers to cross the new railway bridge at Newcastle-on-Tyne, whereby those travelling north, *viâ* the Great Northern and North-Eastern Railways, go right through the Newcastle station, without backing out again, as has been the custom for a lifetime. After that the King opened the Royal Victoria Infirmary, which has been built on The Leazes to take the place of the antiquated successor of the Infirmary built in 1752, and which, though nearer the heart of the town, had long been inadequate for the wants of the community.

Somewhat later in the year a representative of THE CHEMIST AND DRUGGIST, knowing that the new Infirmary contains the latest expression of hospital pharmacy, visited it, and, under the guidance of Mr. Sydney Dunstan, F.C.S., head dispenser and teacher of pharmacy, inspected the pharmaceutical part of the institution as thoroughly as could be done in the better part of a day. The bird's-eye view of the place printed on this page shows that we are dealing with a small township, upon which quite 300,000*l.* has been spent. The Subscriptions Committee tell us that



THE ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE.

> The accommodation provides for about 400 in-patients. There are four medical and four surgical wards for males, and a similar number for females. There are two medical and two surgical wards for children. Suitable isolation wards are provided, with special nurses' rooms attached. The out-patients' department has a large waiting-hall to hold about 400 patients, six consulting and examination rooms, and surgical-dressing rooms for males and females. There is a special section for treatment of diseases of the eye and of the throat and ear. A bacteriological laboratory is also provided. A complete section of the new building is devoted to skin-diseases and other ailments requiring electrical treatment. There are five operating-theatres, fitted with scientific appliances for surgical treatment. The medical work of the institution is equipped with a complete dispensary and dispensers' laboratory. There is also a *post mortem* room, with a mortuary and pathologists' room attached. Every provision has been made for the scientific disinfecting of linen, dressings, clothing, etc., and the laundry is fitted with the latest machinery and appliances. The needs of a large nursing-staff have been arranged for in the nurses' home at the west corner of the building. In the administration block provision has been made for the residence of the house governor, matron, and medical staff. In this block are also offices, library, and board rooms.
>
> The funds for the building and equipment of the Royal Victoria Infirmary have been provided by the munificence of local patrons. The "Queen's Commemoration Fund," organised in 1897 by Sir Riley Lord, J.P., amounts to about 111,000*l.* The organisation of this fund was followed by the bequest of 100,000*l.* by the late Mr. John Hall, of Newcastle, a well-known local shipowner. This was in turn supplemented by the gift by Lord Armstrong of 100,000*l.*

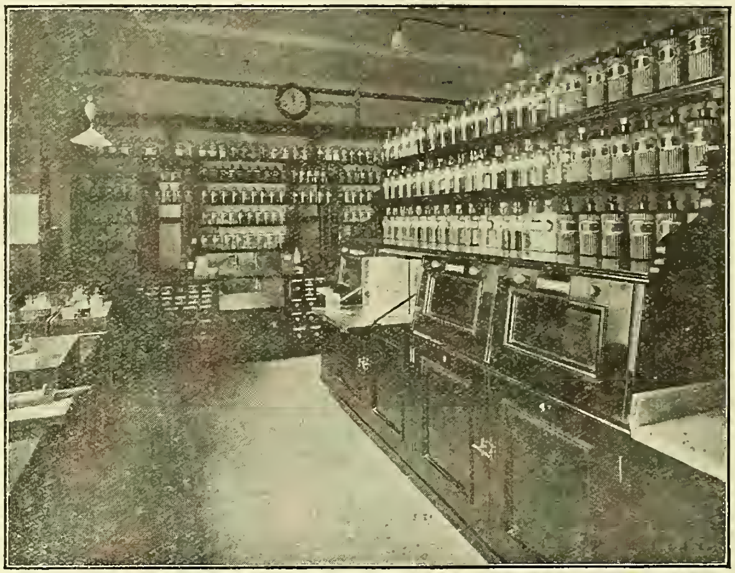
A gigantic sum truly, but then Newcastle-on-Tyne is a rich city. Londoners and the majority of provincials scarcely realise how rich until they walk through its streets or steam down its river; then they see the effects of business enterprise and industrial progress which tell that the canny Novocastrians do much, though they say little.

The Infirmary Arrangements.

Without endeavouring to describe these magnificent Infirmary buildings in detail, we may take our readers with us through the gateway, seen on the extreme right of the picture, by the asphalted carriage road to the entrance-hall behind the ornamental fountain. Through the hall we pass various offices until we reach the lobby which connects the buildings from end to end—a magnificent perambulatory about a quarter of a mile long, whose walls are tiled where they are not pierced by windows. To the extreme left of the picture is the Nurses' home of residence, cut off from the Infirmary by a palatial conservatory. As we walk down the lobby we pass on each side wards for men, women, and children; wards in common, but every one has its appurtenances in the shape of rooms for individual patients, and operating-rooms, as well as a specially fitted laboratory, or preparation-room, for each, in which chemical and microscopic work is done for clinical purposes. There is also close to the main entrance, and entering from the lobby, a beautiful place of worship, called St. Luke's Chapel. This, we understand, is a donation from a devout friend of the institution, who certainly showed no lack of spiritual sense by providing a gem in architecture, which stimulates to devotion. The interior of the chapel is circular, and the roof domed, with lining of gold mosaic. The walls, from the dome downwards, are of sandstone, with a deep dado to the oak skirting made of dark-green finger-size tiles. The fittings are of oak, and the chancel, lectern, etc., recall all that is best in old Norman churches. Continuing the walk to the town end of the lobby, and turning to the right, we reach the series of apartments devoted to

The Dispensary,

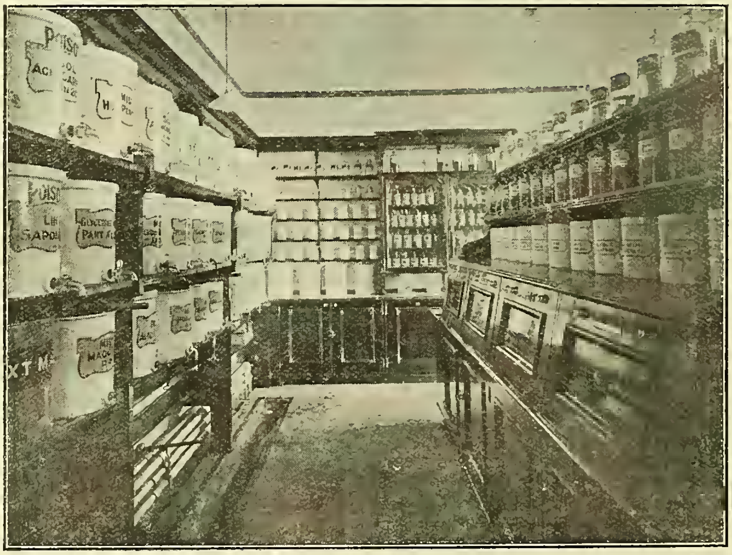
which is situated in the wing seen at the extreme right of the picture. Mr. Dunstan had a series of rooms placed at his disposal here, all but one intercommunicating, and terminating in a not too large but well-lighted apartment, which is the dispensary proper. This is quite close to the out-patients' waiting-hall, and convenient for the house supplies. To the rear of this are half a dozen rooms, beginning with Mr. Dunstan's office, then laboratories, stock-rooms, and aërated-water factory, a stimulants' store being on the other side of the lobby. At the beginning of last year Mr. Dunstan was called upon by the Infirmary Committee to submit his suggestions for dispensary fittings and laboratory equipment, the leading ideas being to anticipate future development as far as possible, and to work economically for the reduction of expenditure. The latter requirement involved a complete change in regard to medical and surgical supplies. Previously these had been purchased by tender in the finished state, and one of the objects of Mr. Dunstan's appointment was to manufacture as much as possible within the Infirmary walls. Mr. Dunstan had six years' experience in this direction at the London Hospital, and the equipment of the Newcastle laboratories, now that they may be seen in working order, is the result of that experience and examination of the dispensaries in the leading metropolitan hospitals. Some public correspondence a year ago showed that there is a division of opinion among authorities as to the economy of working a hospital dispensary on the manufacturing basis. Later in these notes we give some of the Newcastle figures, but, apart from that consideration, there can be no question that the life of the pharmacist who controls such a place is far more interesting when his processes are not limited merely to the compounding of prescriptions, and he has apparatus and machinery capable of meeting any fresh or spasmodic demands. Provincial as well as metropolitan hospitals now have a higher appreciation of the pharmacist's capabilities as an organiser and producer, and they have learnt that to get the best work from good men they must give them the best facilities for exercising the craft. We have this exemplified in Newcastle, and those young pharmacists who read these notes, and have aspirations for hospital appointments, will, if they read between the lines, understand what abilities are requisite, and what is the nature of the duties which fall upon the present-day dispenser.



The Compounding-room. (First view.)

The Compounding-room.

We propose to tell the story of the Newcastle Dispensary as far as possible by pictures. The first view we give of the compounding-room, or dispensary, is as seen from the entrance. The room is so well filled that it feels small when one is in it, but it is about 24 ft. by 20 ft. To the left is the dispensing-counter for the in-patients, and at the far end are seen two of three sliding windows for serving out-patients. The centre of the room is occupied by the cabinet and shelving seen to the right, the lockers being devoted to ointments in large white jars. Mr. Dunstan had one of these opened before the camera to show their convenience. Each end of the cabinet has a marble top—used for the prosaic purpose of mixing prescription-ointments.



The Compounding-room. (Second view.)

The second view was taken from the clock end of the room (an electric clock, by the way; all in the Infirmary are), and shows the other, or "stock-mixture," side. Liniments, mixtures, solutions, etc., are kept here in white jars with glass taps, and underneath is a channel to carry off casual drippings. The glass case at the far end is the poison-cupboard—always locked—*i.e.*, dispensers have to fetch the key before they can get what they want out of it, this precaution inducing reflection.

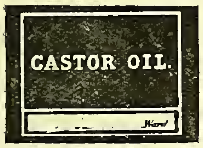
It is not possible, without unduly lengthening this article, to mention a tithe of the notions which one gathers on a visit to this room. Systematising of the work has been so well developed, and the compounders have entered into the spirit of organisation so well, that the ordinary working-day is over by 5 P.M., one dispenser remaining for emergencies. Certain rules have been formulated for the guidance of prescribers connected with the Infirmary, showing them the provisions for in-patients and out-patients.

A note is kept of every article used and of every prescription dispensed. The latter used to be done by dropping a coated pill into a receptacle every time a prescription was dispensed; but one day Mr. Dunstan saw a farmer counting sheep with something like a stop-watch, and now several of these useful little instruments, costing a few shillings only, lie in the dispensary. A few of the records of prescriptions dispensed during three weeks of October 1906 are given in a table on the next page, which shows totals of 1,419, 1,279, and 1,466 in the respective weeks. During 1905 a total of 76,368 prescriptions was dispensed, 30,106 of these being new for out-patients and 33,015 repeats; 3,906 new for in-patients and 9,341 repeats. A striking peculiarity of the prescribing is the absence of medicated lozenges; a pound or two a year would cover the requirements. Compressed tablets are used largely, and, as will be seen, there is a good plant for making them. The medicines dispensed in 1905 included 4,200 gals. of stock mixtures, 120 gals. of liniments, 1,500 gals. of infusions (these are made fresh every morning, except digitalis), 99½ gals. of tinctures, 20,502 gals. of antiseptic lotions, 3,023 gals. of special solutions, and 25 cwt. of ointments. The dispensary has to keep pace with medical and surgical progress, and, *e.g.*, Mr. Dunstan has become quite expert lately in the opsonic treatment, now preparing tuberculin injection in a manner which obviates the local inflammation which was observed when it was first used.

Out-patients			In-patients	
New	Repeats	Casual	New	Repeats
639	268	366	60	86
622	186	304	53	114
462	408	386	63	147

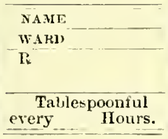
We have mentioned infusion of digitalis as one that is not made daily. The reason is that Mr. Dunstan keeps it sterile in quart flasks, the tube arrangement being similar to that of a wash-bottle, the inlet tube being plugged with cotton-wool, and the outlet one has a rubber tube attached, closed with a clamp.

The dispensing-labels are good, and we reproduce a few. The castor-oil label is 3 in. wide and 2 in. deep, printed in claret-coloured ink on white. The in-patients' label is black on white, 2¾ in deep from the outer lines, the space for the prescription being 1⅝ in. deep and 3⅜ in. wide. Scarlet-paper labels the same as this are used for poisons. The boric-ointment label is similar to the castor-oil one, but black. Another style of poison-label for infirmary use is also illustrated. It measures 4 in. by 3½ in., and is printed black on scarlet. Before leaving the compounding-room we ought to say that the fittings are made in mahogany by Messrs. S. Maw, Son & Sons, who also supplied all the bottles, jars, etc. It is full of labour-saving conveniences, and the fittings are in character consistent with the institution, so far as elegance and substantiality are concerned. If we now leave the compounding-room for the laboratories, we pass on the right Mr. Dunstan's office, to which we may return to gather some of the facts and statistics recorded there. The first of three rooms devoted to the manufacture and storage of medicinal preparations is shown in the next photograph reproduced.



CASTOR OIL.

Ward

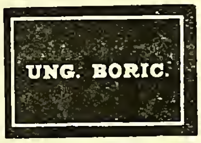


NAME

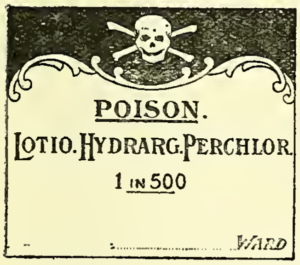
WARD

R

Tablespoonful every Hours.



UNG. BORIC.



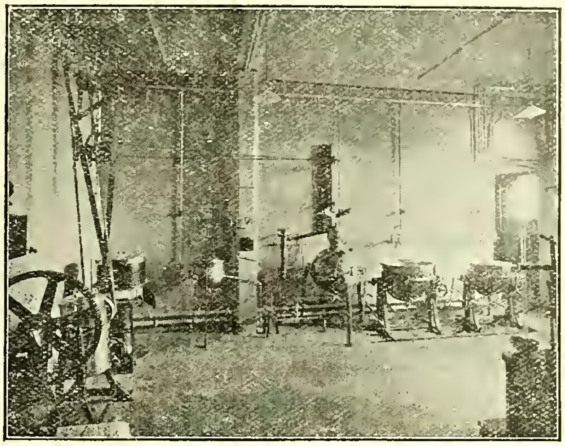
POISON.

LOTIO.HYDRARG.PERCHLOR.

1 IN 500

WARD

On entering this room one sees, first, certain storage cupboards on the left and right, the under parts of both filled with immense bins on castors, which are tin-lined and filled with ointments. The corner of one of the cupboards is seen on the right of the picture. Then the eye glances at the apparatus depicted. The Management Committee spent between 500*l*. and 600*l*. on apparatus. First we note that while this is a steam laboratory the power is electric, the motor being just at the corner of the picture. Starting, then, with the machinery, the pitcher-like apparatus behind the wheel is a 6-gal Morton's emulsifier. Next are a Wilkinson ointment-machine and a 6-gal. fat-melting pan (with steam-jacket); then come a still-headed steam-pan with "Ideal" condenser (a marvel of efficiency), and two open steam-pans, lined with block tin, all these being made by Messrs. Bennett, Son & Shears. The next part of the laboratory is an ante-room between this and the rooms where steam is not used. The ante-room contains the percolating-apparatus, a water-still with Bennett's "Ideal" condenser, which provides a gallon of distillate every ten minutes and supplies all the wards with sterilised distilled water. Here, also, is an earthenware still with steam-jacket. At the entrance to the tablet-room we pass a range of casks, the first being for distilled water, and the labels on the rest show what they are. Observe the gauge on the water-barrel, which tells how much there is in it. Their capacity is 120 gals. each. The solutions are made in them, a water-supply being overhead. The powder and tablet machinery and fittings (shown on p. 150) include a steam drying-plate, with polished-steel top, a fume-chamber, and Brown's powder mixing and sifting machine (seen in the centre of the picture); a drying-cupboard, a runner drug-mill, a Carter's disintegrator, and a hydraulic press by Messrs. Hayward-Tyler & Co., besides the Colton tablet-apparatus. The last consists of a granulator, two compressors, a coater, and a polisher. The last-named is the second pan in the picture, and is made of galvanised iron lined with buckram Pill-machinery is conspicuous by its absence, Mr. Dunstan having advised the committee that "most of the drugs now given as pills can be given in the form of tablets." Quite apart from these laboratories, but contiguous with them, is



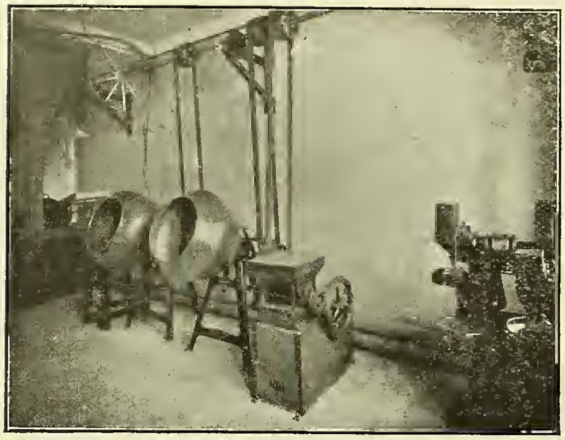
Steam Laboratory.

Some of the Stores.

The Aërated-water Plant.

Like all the rest of the apparatus, this is an innovation. The Infirmary, prior to last year, bought all the aërated waters required, and more than 200*l*. a year went in this direction. The apparatus installed is by Messrs. Hayward-Tyler & Co., London, and is for liquefied gas. The water is filtered by the Berkefeld system, and, when aërated, is put into syphons only—green glass for lemonade and white for soda-water.

After visiting the stores and dressing room, where nurses send their requisition-books twice a week for supplies of all kinds that are neither food nor medicine, we return to the head dispenser's office, with the object of



TABLET-MACHINERY.

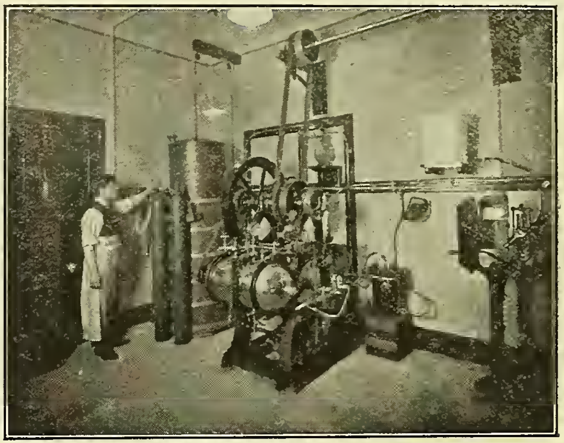
GATHERING UP THE THREADS.

The office is also library and experimental laboratory, Mr. Dunstan having everything at hand for investigation, and a clerk to assist him in bookkeeping. Mr. Dunstan is, by the way, a Cornishman, and served his apprenticeship with Mr. R. S. Edwards, Redruth. After that he was three years in Messrs. Barron, Harveys & Co.'s laboratories, then went to the "Square" for a session, and, having passed the qualifying examination, went to the London Hospital, where for six years he not only dispensed, but assisted in account-keeping, experimental work, and teaching pharmacy. This experience helped to get him the Newcastle appointment in 1904, and it has been well drawn upon since, for the new place is new in organisation as well as equipment. Take, for example, the receipt of goods. It will be understood that these are bought by sample and tender. When delivered at the Infirmary they are put on a special counter and kept there until examined as to purity or what not. They are then entered into a receiving-book, with the name of vendor, quantity, date, and carrier. Invoices are checked by the receiving-book, examined as to price, and official order number. Each invoice is marked with a stamp bearing these entries :

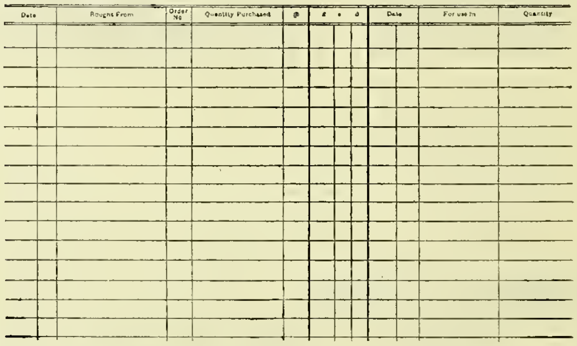
MR. S. DUNSTAN, F.C.S.

Goods Received and Quantities..................................
Correct...
Prices and Calculations Checked..............................
Order Agreed...
Account Chargeable..
....Head Dispenser.
....House Governor.

All the articles are then entered separately on special cards, which take the place of a drug-ledger, and are then filed away on the index system. Here is a reduced facsimile of one of these :



AËRATED-WATER APPARATUS.



Date		Bought From	Order No	Quantity Purchased	@	£	s	d	Date		For use in	Quantity

The original measures 8 in. by 5 in., and the headlines are Date, Bought from, Order No., Quantity purchased, Price, Date, For use in, and Quantity. There is one card for each article, and the back of it is a record of how the article has been disposed of. All goods when required for use are entered on that side, the date, quantity, and where or for what purpose they are required being written on it.

The wards and theatres are supplied with requisition-books for all the above, which are made up weekly, and by this system it is very easy to quickly find the expenditure of any item, and where it has been used. The Infirmary auditor receives a monthly statement of stock and expenditure. The recording system enables the finger to be immediately laid upon those outlets which take more than the average quantity of anything. Besides feeding the patients with their medical and surgical requirements, the dispensary also supplies the laundry (an organisation in itself) with chemical solutions. Under Mr. Dunstan's management the first year showed a saving of nearly 600*l*. in the principal departments. The dispensing-staff consists of three qualified dispensers (besides the principal) and one laboratory porter and a clerk. Our impression of the whole establishment is that pharmaceutically it is a credit to the city which it serves so well, and worthy of the medical school with which it is affiliated.

THE exports of gum arabic from Egypt during the ten months ending October 1906 amounted to 6.447 810 kilos., against 7,599,349 kilos. and 8,507 197 kilos. during the corresponding periods of 1905 and 1904 respectively.

THE exports of chemicals, drugs, dyes, and medicines from the United States during the ten months ending October 1906 amounted to $16,047,000, against $14,358,000 and $12,490,000 during the corresponding period of 1905 and 1904 respectively.

Curtain-starch.

THERE are seasons of the year when the mind of the housekeeper seems to be pervaded with a perfect passion for cleaning, and the family curtains seem to command the very concentration of effort in this direction. This matter of window-curtains is one that affords infinite amusement to the close observer, and it will be noted that upon them the lady of the house relies for impressing her immediate neighbours and the passers-by with a proper sense of her taste and respectability. Window-curtains are converted into veritable tongues of defiance, challenging all and sundry to approach them in colour, design, and arrangement.

This is all very laudable, and if something can be made out of it for the chemist it is a frailty with which it would be stupid to quarrel. The writer long ago noted this trait of the feminine mind, and for years has had the pleasure and the profit of accommodating these propensities of the housekeepers in his neighbourhood. Dissatisfaction is expressed with the ordinary cream-starches on account of the bleaching-effect the sun has upon curtains treated with them; and, further, it is stated that no amount of washing will restore the curtains to their pristine condition. Considering that these objections are due to the use of aniline colours, it occurred to the writer that mineral pigments would be free from these defects, and lemon chrome suggested itself as suitable for producing the favourite cream-colour. This was found to answer well in the proportion of ¼ oz. to 1 lb. of starch.

As in some individuals the æsthetic sense is pretty highly developed, a request was made for shades of colours which would harmonise with the varying draperies of the rooms, and this was met by turning to ultramarine blue, Saxony and Brunswick greens, Indian and Venetian reds, orange chrome, yellow ochre, and Turkey umber, in suitable quantities. The coloured starch sells at 8*d.* per lb., and as starch can be bought for 3*d.* and the proportion of colour required is small, there is a profit which amply repays the trouble. The starch should be added to the colour a little at a time, and, after mixing roughly in a mortar or paper, the mixture is passed through a sieve.

How I Got my Business.

AFTER passing the "Minor" I found I had not sufficient money to start in business on my own account. I consulted several friends in the trade, and one and all advised me to travel. "See the world a bit," said they, "then pick out what you think are the most suitable lines to go on." I decided to follow this advice. My first berth was as dispenser in a good dispensing business, and although I learned much I found the life monotonous and the pay poor. After nine months I went to one of the large northern towns, and there I struck what was more to my liking—a place where you were kept busy all day supplying all quantities from a pennyworth to five-shillingsworth. Here I had 2*l.* 10*s.* a week, and that left me so little over that the prospect of getting into business on my own account seemed remote. So I made up my mind to have another change. This was a resolution easier made than carried out, for I seemed to enjoy myself so much with the fellows I had got to know that I do believe, if I had not given in my notice, I should still have been working for a master. I left, and had many berths in quick succession, but I could not settle, for the demon of unrest was in possession of me. I inserted an advertisement in the *C. & D.* Supplement, and had a post as branch manager offered to me, which I decided to accept. My wages were 2*l.* 5*s.* a week and commission of 10 per cent. over so much, and house and gas free, with the option, if I liked, of letting this part off, which I did for 8*s.* per week. As the place was in a nice locality, I really set to work to save money. Trade gradually improved, and it was wonderful how pleased I was over my first 2*s.* commission and how anxious I became to add to my little store at the bank. I went in for cheaper lodgings, simpler dinners—very often a chop or steak cooked in the back shop did; my tea, sugar, etc., I bought myself, and I gradually developed into a "molly." For my recreation I read books from the local free library, my real pleasure all the time being in saving money. After all, there is no "get-rich-quick" without a bit to start with, and altogether I got about 150*l.* to my credit. One day I heard from a traveller of an old chemist in a neighbouring city wishing to sell out for 140*l.*, as he was getting rather feeble. My next half-day I ran over to see the place, and found it a very miserable-looking show. I went in and purchased a pennyworth of something, and tried to talk to the old chap, but, as he was rather grumpy and no doubt anxious to finish his nap, I departed, but not before noticing that the fittings were good, the stock poor, an abundance of dust, and a grand opportunity. Still, I thought 140*l.* was a lot. In the evening I looked up the traveller from whom I got my information, and over a friendly glass and cigar I put my position clearly before him. His reply was, "Look here: I will wager a new hat that the old man will take 100*l.* if you show it to him." So he did, and seemed glad of the chance. I agreed to take the place over in a month to enable my employer (whom I had always found a perfect gentleman) to fill my place. My first job when I was at last really in possession was to have a good general rummage, and I made many discoveries, the most important being a large box of stock labels out of which, I presume, my predecessor had made money in his younger days. A local painter brightened things up wonderfully, and new linoleum, along with the bottles well cleaned, made me a very proud man. By the aid of a price-list, and in the meantime having judged by the few customers I had the class of trade I should be likely to do, I began to stock up. My next move was to advertise the fact of the shop having changed hands, etc. Here Daisy, of Leeds, came to my assistance with 5,000 handbills neatly and cheaply printed. A careful perusal of the *C. & D.* advertisements brought me some good window-matter, and slowly but surely business improved. I have a big penny trade (ung. hyd. mit., ung. zinci, pills, lint, ol. ricini, lin. camph. all selling galore). I also extract teeth at 4*d.* a time, and some weeks nearly take my rent by this alone. My leading line is an 8-oz. cough-mixture, which I sell at 4½*d.*, called "The Poor Man's Comforter," and it is a boon to many a weary one. Here is the formula:

Theriacæ nig	ʒj.
Acid. sulph. dil.	ʒij.
Chlorodyni (4 grains morphine to ʒj.)	ʒiiss.
Aq. ad	℥viij.

℥ss. t.i.d.

My record week up to now is eighty-seven bottles. For all my customers, however, poor or small, I have a kind word; my advice is free to all, and I never make a practice of "rushing" them. I am happier now than ever I was, and make more than ever I did. Of course I can imagine many would not be pleased with a business of this kind, but in these days of store chemists and cutting grocers it is a sight better than some of the middle-class shops I have been in.

A **Bristol Chemist's Character.**—Mr. Edmund F. L. Jenner, in the course of a paper read at the annual meeting of the Nova Scotia Pharmaceutical Society, said: "I was asked to get a prescription filled in England last winter. I went to Messrs. Boots' huge store in Bristol, the clerk offered to fill it for a shilling. I let him do so. I then went to a dingy little chemist's shop some three hundred yards down the street, and asked the proprietor what he would charge to fill it. 'I can fill it for a shilling,' he replied, 'but if you want the best goods I have in stock, it will cost you half a crown. I presume this medicine is for your wife. If my wife was ill, I should not hesitate for an instant, I should give her the more expensive form of this drug.' He vanished into the back shop, and returned with—a bottle of Parke Davis' F. E. Ergot, manufactured at Walkerville, Ontario. He proceeded to explain the difference between the cheap grades of F. E. Ergot and the physiologically assayed product. I then told him that I was more or less acquainted with the facts myself. I paid him 150 per cent. more than I had paid Boots, Ltd., for the prescription, and later in the day I ran across the doctor who had written the prescription. I narrated the episode to him, and his comment was, 'That little fellow is as honest as they make them. I don't believe he would recommend a fraud if he could make 100*l.* by it.'"

Some Notes from the Provinces.

We daresay many were struck with the remarks made by "Xrayser" in our issue of January 19 regarding the public service which has been and still is being done by chemists and druggists. Many leaders in municipal and national affairs are now looking with trepidation at the advance of corporate trading, for they recognise that one of the influences of this movement is to materially reduce the income of individual traders, thus either robbing them of the leisure which enables them to hold honorary public offices, or forcing the rising generation to spend their lives in salaried appointments—an equally unsuitable condition for public service. These thoughts occur in glancing at the good work by

Alderman Bird, J.P., of Coventry,

which has recently been acknowledged by his fellow townsmen presenting him with an illuminated address, in which the Education Committee of the City and County Borough of Coventry thanked Mr. Bird for his zeal and ability in discharging the duties of Chairman of the committee since its constitution under the Education Act, 1902, and recorded its high appreciation of his valuable services to the city in the cause of education as member and Chairman of the Coventry School Board and Chairman of this committee, a service extending over a period of thirty-six years. One of the happy incidents of the presentation was that Mr. Bird's successor as head of the committee and the Chairman on the occasion is a medical practitioner—Alderman Thomas Webb Fowler, M.B., F.R.C.S.E., etc.

Alderman Bird.

In pharmacy Mr. Bird connects the old times with the new. He was apprenticed in Coventry, his native place, in 1852, to an old member of the craft who was then nearly seventy years of age, and whose business was in Cross Cheaping, near to Broad Gate. The market was then held in these streets, and the stalls there were lighted with naphtha lamps. At that time much was thought of what was the new roller pill-machine, the old proprietor often talking to his apprentice and others of the time when pills were made with the fingers and the size of them governed by strict and impartial judgment. It was then, as now, a natural ambition to be a freeman of the city, which was gained by servitude of seven years in one and the same trade. There are at the present time 3,299 freemen of Coventry, but not one honorary one. Apprentices of old had more work and fewer privileges than those of the present day. In the seven years Mr. Bird did not have seven days' holiday. The hours of business were from 7.15 a.m. until 9 p.m., and Saturday until twelve midnight. The grinding of drugs and the manipulating of them was not left to wholesale houses, and, as the first month of Mr. Bird's apprenticeship was October (wheat sowing and dressing time), he was introduced to the powdering of sulphate of copper. This was done with an ash pole suspended and fixed to the warehouse ceiling, the other end connected by rope to the iron pestle. This gave rude help by elasticity instead of steam elbow-grease, but it was work even then to get 4 or 5 cwt. ready-powdered for the Friday market. Hydrarg. sulph. c. sulph. (æthiops mineral) was much taken for boils and pimples, and it was two days' work for the apprentice to triturate the mercury and sulphur in the shop in the bell-metal mortar. This mortar was the means of advertising by making a great noise to attract the notice of the passer-by. About fifty years ago paraffin and petroleum were generally introduced, and the paraffin lamps were a novelty; aniline dyes were not known; the price of sulphate of quinine was 15*s.* to 17*s.* 6*d.* per oz.

Frederick Bird Schools, Coventry.

Coventry chemists, like others elsewhere, have suffered materially by medicines being dispensed and supplied on the club system, and it is said that one-third of the inhabitants of the town joined one institution at a penny a week. The action recently taken by the British Medical Association in regard to club practice had its parallel there when, on May 1, 1893, a meeting of medical men and chemists was convened, and as a result a Public Medical Service was inaugurated, which at the present time consists of seven medical men and eleven chemists as dispensers of medicines. The number enrolled in this service on December 31, 1906, was 11,940, so it has met with much success, and has put the prescriber and dispenser of medicine in their proper position. This plan might be imitated or initiated in other places. Mr. Bird speaks well of this arrangement, and obviously it is one of the best for the undesirable system which prevails in England and Wales of doctors dispensing for their patients. In business, as in other matters, Mr. Bird is essentially a man of his word, and his trade-mark is a clock dial with the motto, "Punctuality and Perseverance."

Mr. Sage, of Frome.

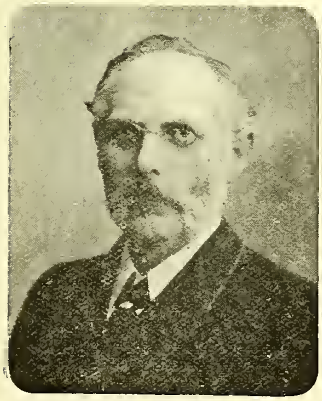
At the beginning of this year Mr. Charles James Sage, chemist and druggist, Frome, disposed of his pharmacy there, and is going to winter this year in Teneriffe. Those who have the pleasure of Mr. Sage's acquaintance, and succeed in getting him to speak of pharmacy when he was a younger man, know that he is worth listening to. He is a native of Frome Selwood, Somersetshire, where he was born in the year 1841. At that time it was isolated from London and neighbouring towns, all communication being kept up by stage coach and waggons. Mr. Sage remembers distinctly the Great Western Railway bringing their line to the town in 1848, and witnessed with much delight the first train arriving with passengers amid the cheering of the inhabitants. He received his education (such as it was in those days) at a private preparatory school, and at the age of fifteen was articled as an apprentice to Mr. J. T. Allen, chemist, Frome. After five years'

Mr. Sage.

work and study with Mr. Allen he came, in 1861, to London as an assistant to a Mr. Thomas, High Street, Stoke Newington. A few weeks after he settled there he witnessed from London Bridge the terrible conflagration at Tooley Street. Early in 1862 he got an engagement at the Poultry branch of Messrs. Corbyn, Stacey & Co., and remained some time in their service. A stay at Messrs. Davies & Shepheard's, Chester, followed, but London surroundings were preferred to provincial life, so he returned, securing a situation in the early winter at Mr. James Merrell's, Camden Road. There he remained until the autumn of 1864, when he got an outdoor berth with Mr. Starkey, 4 the Strand, with whom he remained until November 1865, when Mr. Allen, his apprentice-master, wished to retire from business, and Mr. Sage bought it, thus commencing on his own account on January 1, 1866. The changes from those times to the present are very marked, he says. There were no stores, patents sold at full prices, and good families were regular and abiding quantities. Now all is transformed—the keen opposition of stores, and cutting chemists; the thousand-and-one new preparations; the new requirements, and modes in dispensing have quite re-created the whole profession. Mr. Sage says his endeavour has been strenuously to lead, not follow, others to a disadvantage, and his counsel to young chemists is "Be up-to-date, perfect yourselves to the fullest extent, for the next forty years will bring as many surprises as the past forty." Mr. Sage treasures in his memory many who gave him advice and counsel when a young man in London—Mr. Peter Squire, Oxford Street; Mr. George Francis, of Hearon, Squire & Co.; Mr. James Merrell, of Camden Town; and the kind-hearted Mr. Hugell, of Meggeson & Co., who gave to all who approached them a spirit of the modern *mot*, "Don't be downhearted."

While diligent in business, Mr. Sage has not neglected rendering service in many ways for the benefit of his native town, following the idea of Professor Lecky that "a man's greatest enjoyment in life is attained by doing some bit of good for his fellow-men." Wherever he could he has promoted any scheme promising a permanent success. Among many others he formed a Mutual Plate-glass Insurance Society, which now returns a bonus of 50 per cent. annually to its members. Then he is the acknowledged founder of the Frome and District Chamber of Commerce, now in its fifth year of existence. He is the chairman of the directors of the Frome Gas Co., and Treasurer of Trustees of the Frome Cemeteries. It is a notable circumstance that his only son, Mr. C. Edward Sage, Principal of the Metropolitan College of Pharmacy, Kennington Road, was also for some years on Messrs. Corbyn, Stacey & Co.'s staff, in this case as analyst. We trust that in his retirement and under the genial influence of the Teneriffe climate Mr. Sage, sen., may recover his wonted health.

Mr. Peet, J.P., of Liverpool.



Mr. Peet, F.S.A.

The public services rendered by chemists in business is further exemplified in the career of Mr. Henry Peet, J.P., of the Adelphi Pharmacy, Ranelagh Place, Liverpool. He is a Lincolnshire man, and served an apprenticeship of five years with Messrs. Donington & Co., Spalding, and passed the Minor examination in December 1877. Then he was an assistant with Corbyn & Co., New Bond Street, London, and left them in 1878 to take over an old-established business at the corner of Mount Pleasant, Liverpool. A few years later he acquired the business of the late Mr. John Flint, Ranelagh Place, and carried on the two pharmacies until 1903, when he accepted an offer for the Mount Pleasant premises, and concentrated the two connections at Ranelagh Place. About the same time the Corporation required a portion of the latter premises for street improvements, and the present commanding and palatial building was erected on the site. It is one of the most prominent business positions in the city, being quite close to Adelphi Hotel, and in consequence Mr. Peet has a cosmopolitan connection. The interior of the pharmacy is wedge-shaped, and every inch of space is utilised, both on ground-floor and basement. It is notable for its stock of American and Continental medicines and specialities, and the personal attention which the proprietor gives to business. Yet Mr. Peet is comparatively a man of leisure, fond of his home, fond of church and public work, and particularly fond of travel. These are the result of working hard and working to a successful issue. He has been a member of the Liverpool Select Vestry for twenty-two years, being Chairman in 1902-3. He has also been a guardian of the poor for the same period, and is Chairman of the Assessment Committee. As a Churchman, he did good service to the City by his strenuous advocacy of the Parish Churches being included in the City Churches Bill, and he was one of the witnesses before the House of Lords in regard to this matter, with the result that the proposal was incorporated in the Act. Mr. Peet was Churchwarden of the parish of Liverpool for four years, and was placed on the Commission of the Peace in 1894. Notwithstanding all this public service, Mr. Peet has found time to cultivate a passion for antiquities, especially archæological studies, and it is this chiefly which has taken him abroad on his annual holidays. He has visited nearly every country in Europe, as well as Canada and the United States. He has been a Fellow of the Society of Antiquaries since 1893, and has written a number of historical monographs dealing with churches. Huguenot history and genealogy form another department of Mr. Peet's research, as he is descended from Abraham de Vantier, a Huguenot who came to this country after the Massacre of St. Bartholomew, and settled at Thorney Abbey, Cambridgeshire. One of his descendants, Anne de Vantier, married Mr. John Peet, of Horbling, whose son was Major F. Peet, father of the subject of these notes.

Adelphi Pharmacy, Liverpool.

Mr. Peet now has more leisure to pursue his favourite studies, as he is assisted in his business by his nephew, Mr. M. Flintham Peet, who, like himself, speaks French fluently, and is well acquainted with Continental pharmacy.

Bookkeeping

for Chemists with Small Businesses.

By A Methodical Retailer.

I HAVE found the following system an absolutely reliable one, and it has been satisfactory to that very fastidious individual, the Income-tax surveyor, hence my opinion that it is ideal. My system consists of five books—viz., (1) Cash Ledger or Cash Book; (2) Customers' Ledger; (3) Wholesale Account Ledger; (4) Day Book; and (5) Petty Cash Book.

Procure Cash-book, ruled, if possible, with treble cash-columns, and use as in the following sketches. Nos. 1 and 2 are selections of two successive weeks, and, of course, the figures are imaginary as illustrations to convey the idea :

Page 65 No. 1. Page 66

Cr.		£	s.	d.	£	s.	d.
	Balance in hand and bank ...				75	0	0
March 6	Cash taken...	3	0	0			
,, 7	,, ,, ...	2	0	0			
,, 8	,, ,, ...	2	10	0			
,, 9	,, ,, ...	3	0	0			
,, 10	,, ,, ...	2	15	0			
,, 11	,, ,, ...	4	10	0			
,, 11	*a/c* Mrs. Thompson ...	1	0	0			
					18	15	0
					93	15	0

		Expenses								
		Private and Personal			Business			Stock paid for		
Dr.		£	s.	d.	£	s.	d.	£	s.	d.
March 6	*a/c* Jones							1	15	6
,, 6	Stamps					1	0			
	House	2	0	0						
,, 7	,, Gas ...		5	0						
,, 7	Shop				2	15	0			
,, 8	*a/c* Thomas ...							1	13	10
,, 9	Carriage					1	0			
,, 9	Water Rate ...				2	0	0			
,, 10	Life Insurance ...					10	6			
,, 10	Drugs								2	7
,, 11	Wages				1	15	0			
		3	5	0	7	2	6	3	11	11
								7	2	6
								3	5	0
								13	19	5
	Balance carried forward in hand and bank							79	15	7
								93	15	0

No. 2.

Cr.		£	s.	d.	£	s.	d.
March 12	Balance				79	15	7
,, 12	Cash taken	2	17	0			
,, 13	,, ,, ...	2	5	0			
,, 14	,, ,, ...	2	15	0			
,, 14	*a/c* J. Jay, Esq.	1	17	6			
,, 15	Cash taken	3	10	0			
,, 16	,, ,, ...	2	17	6			
,, 17	,, ,, ...	4	15	0			
					20	6	0
	Cash taken { £18 15 0 20 6 0						
	Carried forward ... 39 1 0				100	1	7

		Expenses								
		Private and Personal			Business			Stock paid for		
Dr.		£	s.	d.	£	s.	d.	£	s.	d.
March 12	*a/c* Brown ...							3	7	6
,, 12	Carriage					2	7			
,, 13	Stamps					2	0			
,, 14	*a/c* Robinson ...							2	1	3
,, 14	Insurance forms					10	0			
,, 15	Advt. *a/c*				2	2	0			
,, 15	Licence P.M. ...					5	0			
,, 15	Rep. Utensils ...					2	6			
,, 16	Drugs								3	1
,, 17	Wages				1	15	0			
,, 17	Stamps					1	0			
,, 17	,, Pat. Med.								6	0
,, 17	House	2	0	0						
		2	0	0	5	0	1	5	17	10
								5	0	1
								2	0	0
								12	17	10
	Balance carried forward...							87	3	9
								100	1	7

The items on the debit side of the Cash Ledger, as above, are entries transferred from all the other books. Thus, I use the *C. & D. Diary* for entering daily cash purchases, this I call the "Petty Cash-book." The Day-book is used for entering goods sold on credit, returns to merchants, etc., and this book is entered up respectively into Customers' Ledger or Wholesale Account Ledger every month.

The Wholesale Account Ledger is indexed, double *cash ruled* on each page, thus :

Dr.					Cr.				
1900	Brown & Co.	£	s.	d.	1900	Quix St. Donlon	£	.	d.
Mar. 5	Goods	7	10	0	Jan. 31	By Rets. ..		7	11
,, 12	,, ...	1	0	0	Mar. 20	,, Discount 5%		8	1
						,, Cheque ...	7	14	0
		8	10	0			8	10	0

When paying a cheque for an account (or when paying out anything which commands a discount) make a note of this discount on the counterfoil of the cheque, and when entering the cheque in bank transactions account enter discount as shown. This will give savings for prompt payments. At the end of the Cash Ledger beginning last pages and working to the middle of the book, keep an exact account of your bank transactions. I give a sketch of an imaginary end of quarter, or half-year, and beginning of next. This bank statement should agree with your bank pass-book :

Cr.		£	s.	d.	Dr.		Discounts £	s.	d.	Paid for Stock £	s.	d.
Mar. 1	Balance	100	0	0	Mar. 1	Balance forward	2	10	0	50	0	0
,, 7	Cash	15	0	0	,, 6	Jones		1	9	1	15	6
,, 14	,, ...	15	0	0	,, 8	Thomas		1	7	1	13	10
,, 21	,, ...	17	10	0	,, 12	Brown...		3	4	3	7	6
					,, 14	Robinson		2	1	2	1	3
					,, 15	(Advt. a/c) Thompson 10 % ...		4	2	2	2	0
,, 25	Interest	2	0	0								
					,, 15	Cheque Book					4	2
					,, 25	Bank Charges					5	0
					,, 25	Balance				88	0	9
		149	10	0		Carry forward Dis.	3	2	11	149	10	0
							3	2	11			
Mar. 25	Balance...	88	0	9	Mar. 30	Jones				1	5	0
						Brown...				1	3	0
						Smith...				5	7	6
	And so on.					And so on.						

The Customers' Ledger is a simple cash column ledger, in which all goods purchased for credit are entered (say, monthly). Any returns or allowances I arrange thus (as they seldom occur) :

Specimen Page of Customers' Ledger.

Mrs. Smith, 13 River Street, Old Town.

		£	s.	d.			£	s.	d.
00									
Mar. 1	Borax			6	Jan. 12	Brought forward		9	10
,, 3	Sulphur			2	Feb. 12	6 Syph. Soda		2	0
	Owbridge's L. Tonic			11		2 Bathing Caps		3	0
	Bed Slipper		4	6	,, 14	Cred. 1 B. Cap., 1s. 6d.			
,, 9	Perfume		1	9	Mar. 10	Pills		1	0
,, 10	All. cr. on Bed Slipper, 1s. 3d.				., 24	Mixture		2	0
,, 12	Mixture		2	0					
	Forward		9	10				17	10
						Credit— s. d. Jan. 10 ... ... 1 3 Feb. 14 ... ... 1 6		2	9
								15	1

In making out customers' accounts the credits are omitted from the body of the invoice and placed at the end of account, as shown, detailed of course.

Analysis of Trade Expenses.

	Rent	Wages	Carr., Stps., &c.	Rates	Gas	And so on, all Business Expenses
January ...						
February ...						
March ...						
April ...						
May ...						
June ...						
Add up here						
July ...						
August ...						
September						
October ...						
November...						
December...						
Add up here to get annual expenses ...						

Each Monday morning take your Cash Ledger ; add up the week's cash taken with balance in hand, and bank (credit side) ; then add up the three columns on debit side and balance. In No. 2 specimen of Cash Ledger it will be seen there is a balance of 87*l*. 3*s*. 9*d*. Now count the cash in hand, and turn to the bank account at the end of the book, and deduct the cheques paid from the credit balance, and add this amount to the cash in hand, which should be exactly 87*l*. 3*s*. 9*d*. in this imaginary balancing. If it does not balance something has not been entered or the addition is wrong. This pulls you up at once, and so each week one analyses the whole business.

Then take *two* pages at the end of the Wholesale Account Ledger (rule horizontally from top to bottom to make cash columns as shown at the end of the previous column), and index as analysis of trade expenses.

The business expenses must be analysed monthly and put into above, under each proper heading, and from this the expenses can be got at any moment, or half-yearly or yearly, for Income-tax or any other purposes. The weekly balancing and monthly analysis take about ten minutes to do, so that no one need call this system laborious or abstruse.

The chief precautions in bookkeeping are to be accurate, to do the work at set stated intervals if possible, to avoid cramped, crowded writing and figures. If one page will just hold the matter use two, and write large clear figures and letters. Have large books to begin with.

If this system is used in conjunction with the article (in the *C. & D. Diary*, 1907) on Stock-taking, you will find you will get every particular from your four or five books to fill in the figures in Nos. 1 and 2 balance-sheets there set forth.

Australia and Proprietaries.—The "A.P.S. Monthly Circular," referring to the London Chamber of Commerce action *re* the Australia and New Zealand proceedings about proprietary articles, says Mr. J. C. Umney "is taking great interest in the question, and we understand that recommendations have been issued to members to cease advertising in any Colony when any Bill comes into force which requires trade secrets to be revealed."

Stock-keeping and Storing.

SOME few weeks ago Mr. Edwin Walters, chemist and druggist, Oldham, read a paper with the above title before the Oldham Pharmaceutical Association. Mr. Walters supplied us with notes of his lecture, from which the following article has been written. The main point to keep in view in storing stock is to so place the various articles that they are kept in active condition until they reach the customer's hand. The packages must present a fresh appearance, as that is one of the only ways open to the customer of telling if the goods he is buying are in good condition. The method of storing must not, on the other hand, involve unnecessary expense, although a little extra expense is permissible if correspondingly good results are yielded. The very varied nature of the stock of a chemist's business and the length of time some articles have to be stocked renders the matter of storage more vital than in businesses where the stock-in-trade is of a less perishable nature or is turned over several times during the year. Drugs and chemicals liable to evaporation or oxidation should be kept in a cool, dark place away from draughts. Instances of this class are sp. æther. nit., essential oils—especially lemon and bergamot—rectified spirit, ethers, peroxide of hydrogen, and vin. ferri. Goods likely to attract moths or fungoid growths should be kept dry, in the light, and in a current of air, examples being roots, herbs, and cayenne-pods. The good rule "To be kept in a cool, dry place" should always be in mind. Whether the store-room be exposed to the direct sunlight or not are circumstances which the technical knowledge of the chemist will take into account in placing the different articles or providing suitable containers. Paint-brushes, for instance, need keeping in a box, not too well covered, and a piece of naphthalene should find a place in the box, or moths will be found to have gained an entrance, which spells ruin to the brushes. Camel-hair pencils need carefully looking after, but in this case a little camphor is more suitable than the stronger-smelling naphthalene. Stock-vessels containing honey should be kept a few inches from the floor and away from the wall, so as to let the air circulate all round. Liq. ammon. fort. should be kept packed in straw; it is the safer plan, and also ensures a more even temperature. Poppy-heads are very attractive to mice, and should in consequence be stored in mice-proof metal containers. Powders keep better in tins, hence pulv. glycyrrh. co. is in better condition after being stored in tin than if kept in a cask or a parcel. Pulv. lini and sem. lini, on the other hand, are better in a cask. Small quantities of powders are quite as convenient in tins; the packages are not so fragile as bottles, and they are easier to arrange on shelves. Small casks are much better for keeping seeds in such as anise and cumin. Icing-sugar seems to cake less in stoneware than in tins. Valerian is best tied up in a bundle and hung from the ceiling away from other articles, owing to its unpleasant habit of communicating its odour to everything within range.

A good way to index stock, without slavishly adhering to any system, is to use the lists sent out by wholesale houses. The advantage of this plan is that if on looking for an article you find it is not in stock you glean some particulars as to price from the list, and are able at once to say something about it to the customer. Drugs should be arranged on the various shelves in alphabetical order, numbering each shelf and using a letter to denote the room. A1, for instance, means No. 1 shelf in the shop, No. 1 shelf being the top left-hand one working from left to right. In using a price-list, take a very fine pen and rule two column-lines in the margin, using the first column to denote the place where the drug is kept in the shop and the second column its whereabouts in the store-room. In spare space note the usual source of supply, quantity taken, and price paid. If the writing is small enough, selling price might be added. Better than using one list only is to get two lists and paste in a guard-book, so as to have plenty of margin for notes. In the case of patents and proprietary articles, do the same with any list that has a good margin. Do not omit to denote any special source of supply, with cost and quantity; also put in the selling price. This is a most useful book for everyday use, and need not take long to get ready. It is a good plan with patents that do not sell freely to wrap them in transparent paper to keep the packages clean. In this way it is possible to hand out the goods with their original appearance unimpaired. In indexing sundries an Evans list is useful. It will not be necessary to rule column-lines, as there is plenty of room to make notes against each article. Make a note of the quantity usually bought, and always add the retail price. Drysaltery, stationery, photography, and such-like may have specially written-up books, giving full particulars of cost, quantity, and retail price.

Remember that in arranging stock it is well to keep goods off the floor as much as possible—on shelves or in lockers. The last-named are better than cupboards. Outside every locker or drawer put a list of contents.

Displaying Odd Things.

By William Maskew, Pharmaceutical Chemist.

THE photographs which are here reproduced almost explain themselves. The first one represents an advertisement and booklet rack which I have designed. It is intended to occupy a position near the doorway within the pharmacy, so that customers may help themselves to literature to their liking. The construction is of polished mahogany, and the dimensions 4 ft. 9 in. by 9 in. The compartments are of varying depths, with polished plate-glass fronts, so that the nature of the advertisements is seen. The back slides out for cleaning-purposes.

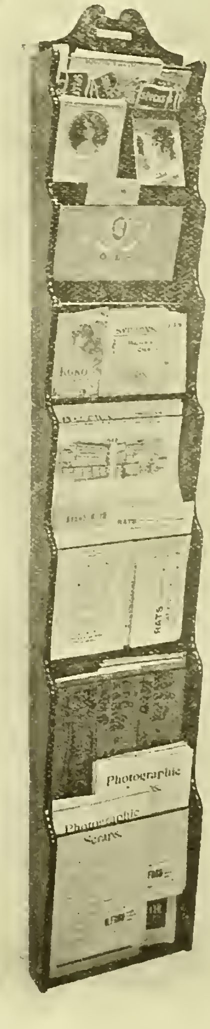
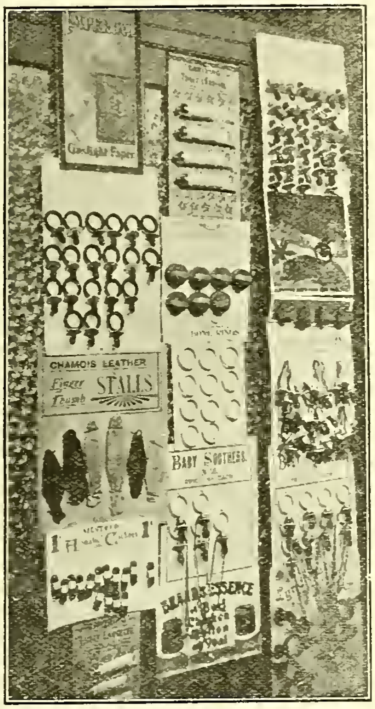


Photo price-lists, "Photo Scraps," and the like are readily carried away by juvenile and other "photo fiends," while lady customers—with a pram outside—do not blush while annexing Fennings' "Mother's Book" and literature devoted to the complexion.

The rack is also a reminder to the chemist never to forget that a most judicious way of introducing his specialities is by enclosing a pamphlet or booklet in every parcel he sends out. This is an important point which any assistant who thinks he is a good shopman should bear in mind, because literature so distributed reaches the inner precincts of the dwelling, where the parcel is opened, and thus has a better chance of being read than the variety which gets no further than the letter-box.

By such a contrivance quite an assortment of pamphlets are handy, but in many pharmacies they are both out of sight and out of mind.

The second photograph shows how I now display carded goods. When an apprentice my "worthy master" instilled into me the idea that high-class chemists display neither carded goods nor showcards. Time, however, brings changes, and nowadays almost every pharmaceutical commodity is packed in this effective and inexpensive manner, and the pharmacy that can do without these lines is certainly rare. It is, however, unfortunate that in many establishments goods of this description are displayed in a very careless fashion—any projection on a showcase, door, or pillar doing duty as a peg and holding card upon card. I use laths (1 in. by ½ in.) to tack the cards to, and place them on that neglected part of the pharmacy, the back of the window enclosure, or on a portion of wall-fixture A picture-ring should be screwed into the top of each lath. As the articles are sold the cards are easily shortened and readjusted. Any space thus left can be filled up by a small showcard if nothing else is at hand.



Demerara Doings.

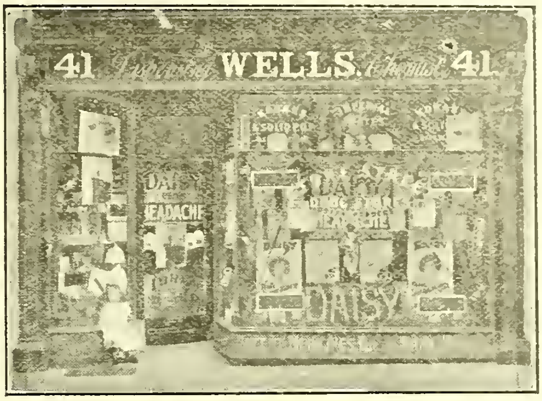
(From the " C. & D." Correspondent.)

Mr. Fonseca, Jun., who for some years has held a position in the Surgeon-General's office, has resigned his appointment in order to assist his father, Mr. E. G. Fonseca, in his drug-business.

The Department of Science and Agriculture has published a price-list of economic plants for sale, and has issued a notice stating that " advice in connection with the cultivation of economic plants will be afforded, if desired, by the Director of Science and Agriculture, the Superintendent of the Botanical Gardens, or the Instructor in Agriculture, either by letter or interview." Also that the instructor will visit any locality whenever it is practicable to do so, and advise cultivators as to the correct treatment of their soils and produce.

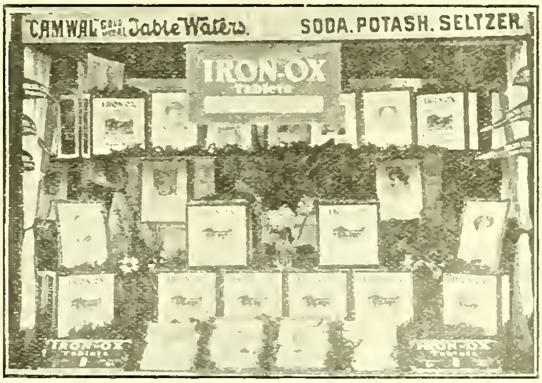
Mr. J. Muir, a broker, has been charged before a magistrate with having failed satisfactorily to account for the possession of 17 lb. of potassium iodide, which he was offering to Messrs. Smith Bros. & Co., Ltd., at less than the landed cost. Muir stated that he was selling the iodide for Mr. Karnar, druggist; but the latter not only denied all knowledge of the drug, but said that he did not know Muir. Karnar's assistant admitted that he had on more than one occasion received money from defendant for goods sold on behalf of Karnar. The case against Muir was dismissed, but an action against Karnar is threatened.

Chemists' Windows.



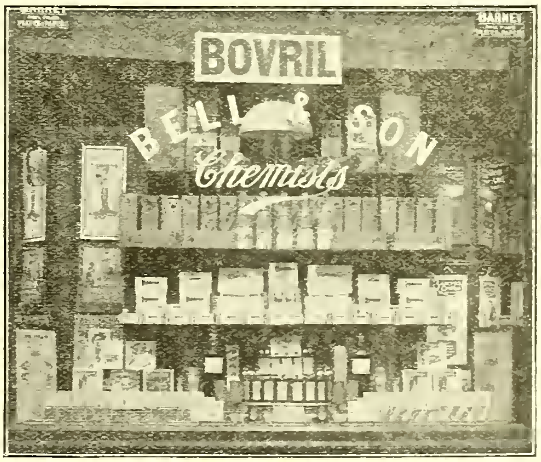
A First-prize Daisy Window.

Designed and carried out by Mr. W. G. Wells, chemist and druggist, 41 Stone Street, Maidstone.



An Iron-Ox Window-display.

In this, the advertising material is supplied by the Iron-Ox Remedy Co., Ltd., and the window is that of Messrs. West & Son, 864 Chester Road, Stretford, Manchester. The mirrors at each end are lightly draped with cream and green art muslin, the bottom shelf is dried moss, and the remainder artificial flowers, ferns, and grasses.



Own Proprietaries Window

Mr. J. Henry Bell, Stapleford, Notts, sends us a quarter-plate photograph, from which the above has been engraved. Mr. Bell says: " The display has sold a lot of our own preparations. The bottom contains samples of nearly all of them."

Manufacturing Formulas and Methods.

By "Wrinkles."

THIS paper is a continuation of the one I wrote for the Summer Number and next issue of The Chemist and Druggist (July 28, 1906, p. 194, and August 4, p. 231); before trying any of the undermentioned formulas chemists are advised to read the first article, as the principles there laid down for beverage-brewing, fermentation, temperature, and preservatives apply equally in the case of the following.

Hop-ale.

Best hops	25 oz.
Crushed liquorice-root	7 oz.
Crushed Jamaica ginger	5 oz.
Salt	4 oz.

Bring 30 gals. of water to the boil, then add the above ingredients, boiling them together for half an hour, straining, and running the liquor into the fermenting-tub. Next add to it 10 lb. of cane sugar, colour with caramel, and ferment according to the instructions given in my previous article.

It is an excellent plan with many of these drinks after fermentation to rack into clean casks, and in ten days' time fine down, bottling in two or three weeks, according to condition.

Hop-ale. (With Saccharin.)

Best hops	20 oz.
Crushed liquorice-root	5 oz.
Crushed Jamaica ginger	3 oz.

Follow the directions given in the previous recipe, using 30 gals. of water. 5 lb. of sugar, and 75 grains of refined saccharin. Ferment in the usual manner.

For cask-trade it is usual to put a handful of hops into each cask before bunging down.

Ginger-stout.

Liquorice-juice	1½ lb.
Best hops	1½ lb.
Powdered gentian	2 oz.
Powdered cloves	2 oz.
Bruised Jamaica ginger	3 lb.
Caramel	10 oz.

Bring 30 gals. of water to the boil, then add the above ingredients, boil for half an hour, and strain the liquor into the fermenting-tub, in which has been placed 12 lb. of Demerara sugar. Ferment as previously directed, and finally add 4 oz. of powdered citric acid.

Ginger-stout. (With Saccharin.)

Liquorice-juice	20 oz.
Best hops	20 oz.
Powdered gentian	2 oz.
Powdered cloves	2 oz.
Bruised Jamaica ginger	2½ lb.
Caramel	10 oz.

Follow the directions given in the previous formula, using 30 gals. of water, 6 lb. of Demerara sugar, and 126 grains of refined saccharin, finally adding 3 oz. of powdered citric acid.

Spruce-beer.

Bruised Jamaica ginger	4 lb.
Cane sugar	100 lb.
Cream of tartar	8 lb.
Essence of spruce	2 to 2½ pints according to strength
Water	95 gals.

Follow the directions given in the previous paper for brewing ginger-beer.

Horehound-beer.

Horehound herb	2¼ lb.
Powdered gentian	1 oz.
Chillies	2 dr.
Coriander-seed	1½ oz.
Powdered ginger	4 oz.
Liquorice	13 oz.
Sugar	10 lb.
Caramel	1 oz.
Water	9 gals.

Boil the horehound, gentian, and chillies together for fifteen minutes in 5 gals. of water, and strain on to the coriander, ginger, liquorice, caramel, and sugar; make up to 9 gals., and ferment.

Less sugar can be used in either of the last two formulas by substituting for a part of it refined saccharin; 14 grains being the equivalent to a pound of sugar.

Finings.

The question of finings naturally arises from a perusal of these recipes. Not long ago (*C. & D.*, January 27, 1906, p. 147) a short paper was given on this subject from which the reader can learn much of the technical applications of finings. The following is the recipe I have used for a number of years:

Cover 1 lb. of genuine isinglass with cold water, then add 4 oz. of tartaric acid; cover over and let stand for twenty-four hours, adding water if needed, and stirring until all the isinglass is dissolved; then strain.

For use 2 pints of the liquid is required to 30 gals. of the liquid it is intended to clarify.

The finings should be well mixed in by means of a whisk.

Syrups for Aërating.

The syrups used by aërated-water makers are without doubt the most important part of the business. Unless the finished water has a flavour that is just right the public will stand aloof. The foundation of the reputation of many an important aërated-water business has been made on the lemonade turned out, and although lemon-syrup may seem a simple thing to make, yet until you have tried to produce a syrup of good flavour which will successfully remain after aërating and having been kept in stock for some time, you will be surprised at the care that is needed. The undermentioned formulas may look rough and ready, and may perhaps excite a smile from superior pharmacists, but the recipes produce first-class syrups, and years ago I made a reputation by their use. To the practical chemist they will give useful hints, and that is my excuse for including them. I do not like boiling the sugar for the syrup, as it is apt to be partly converted into invert sugar, which so readily ferments. My method was to sterilise the water by boiling, thus destroying fermentation-matter, and then pour it while still boiling on to the sugar.

LEMONADE-SYRUP.

Take the head out of a suitable cask, and bore a hole about 5 in. from the bottom (inside). Rub up 5½ oz. of carbonate of magnesia with 13 oz. of finest oil of lemon; then make 40 gals. of syrup, and when cool thoroughly whisk in the lemon and magnesia mixture. When quite cool, well mix in 10 oz. of bisulphite of lime. Buy this with a guarantee that it is free from arsenic. Let the contents of the cask settle for four or five days, draw off from the tap-hole, and acidulate for use as required.

When half-empty it is a good plan to fill up the cask again, as it will be found that if magnesia and lemon are thus added from time to time the flavour improves very much; besides, it is wasteful to empty the cask until the magnesia has accumulated level with the tap-hole. It should be noted that the acid is only added to the syrup after drawing it off from cask, as, of course, it would neutralise the magnesia if put into the cask.

GINGER-ALE ESSENCE.

This is one of the most difficult essences to manage properly, and it was only after many experiments that I hit on the following method. The ginger used should be the finest Jamaica that can be bought, and on no account must dried peel be used. As the lemon and orange peels are cut they should be at once added to the spirit; if left for a few hours or all night in the air, the peel deteriorates.

Bruised Jamaica ginger	13 lb.
Fresh lemon-peel	5 lb.
Fresh orange-peel	4 lb.
Bruised vanilla-pods	½ oz.
Rectified spirit 64 o.p.	33 pints

Macerate for a week, then add 11 pints of water.

Put 6 pints of the essence in a jar, add 8 pints of water, and shake well. Next dissolve in 1 pint of hot water 3 oz. of phosphate of soda, and add to the essence in the jar. In another pint of hot water dissolve 1 oz. of chloride of calcium, add it to contents of the jar, and shake thoroughly Filter the essence before adding to the syrup.

The method of de-resinising the essence is very important, as on the care taken in the process depends the subsequent solubility of the essence. The ginger-ale made from this formula should be perfectly bright if my directions are carefully attended to.

Reliable Recipes.

By Pierre Johnson.

Syrupus Ferri Phosphatum Co.

Parrish's syrup is one of the bugbears of manufacturing-pharmacy. It often goes wrong in the manufacturer's hands, and retailers know that many a gallon of it becomes solid through change in the sugar, or muddy through deposit of phosphates. My formula works splendidly. So far as the ferrous phosphate is concerned it is modelled on the H. W. Jones method, but not on the intricate, if not clumsy, B.P.C. process as regards the syrup as a whole. In most formulæ liquor cocci is used, and this, in my experience, is an upsetting factor. So far as colouring is concerned, I obtain equal brilliancy and greater stability by proceeding as follows :

Dark grain cochineal	8 oz.
Distilled water	2 gals.

Put the cochineal in a muslin bag that will hold 3 lb. or so. tie up. and place in the water; bring it to the boil, and continue to boil gently until the cochineal is exhausted; then filter, making up the filtrate to 6 gals. In the filtrate dissolve—

Pharmaceutical sugar	40 lb.

Cool, strain, and set aside. Now prepare a phosphate solution, thus:

Iron wire	3 oz.
Phosphoric acid, sp. gr. 1.750 ...	32 oz.
Distilled water	32 oz.

Mix the water and the acid, and dissolve the iron wire in the mixture. When the action ceases, filter if necessary, and to the filtrate add the following mixture:

Sodium phosphate	1 oz.
Potassium carbonate	3 oz.
Precipitated calcium phosphate ...	6 oz.
Distilled water	85 oz.

Stir well together, and promote solution by heating cautiously if necessary. Filter the solution, and add it slowly to the syrup, keeping it well agitated the while.

The specific gravity of the product should lie between 1.300 and 1.320. Flavouring, such as orange-flower water, may be added if desired, allowance being made for it by omitting as much water.

Compound Hypophosphite Syrup.

This is another popular preparation which varies considerably in appearance and properties. My formula is for a neutral syrup, and differs from most formulæ hitherto published in being free from added acid, and containing glucose, which gives the syrup a viscous appearance that distinguishes it from a cane-sugar syrup :

Ferri hypophosphitis	ʒv.
Potassii citratis	ʒij.
Manganesii hypophosphitis ...	ʒiv.
Sodii hypophosphitis	ʒv.
Potassii hypophosphitis	ʒv.
Calcii hypophosphitis	ʒviij.
Quininæ hydrochloridi	ʒij. ℈ij.
Strychninæ hydrochloridi ...	gr. viij.
Glycerini	℥x.
Glucosi	℥xvj.
Aquæ destillatæ	℥xxv.
Syrup. ad	Oviij.

Rub the iron hypophosphite and potassium citrate with 2 oz. of water in a mortar, then add the rest of the hypophosphites, the glycerin, and the remainder of the water, stirring well. Meanwhile dissolve the solid glucose in 6 pints of simple syrup by heating, and, this done, add the quinine and strychnine, dissolve, then add the hypophosphite mixture as above, continuing the heat until solution is complete. Strain, and make to a gallon with simple syrup.

Each teaspoonful of this preparation contains $\frac{1}{8}$ grain of quinine hydrochloride and $\frac{1}{160}$ grain of strychnine hydrochloride.

Tooth-paste Perfume.

Ol. rosæ	ʒj.
Ol. cinnamomi	ʒij.
Ol. caryophylli	ʒix.
Ol. limonis	ʒvij.
Ess. vanillæ	℥iij.
Spt. rectificati	℥ix.

Carbolic Tooth-powder.

I have been told that chalk is not a good ingredient for this dentifrice, because it in time combines with the carbolic acid. But I have heard nothing against the following preparation; on the contrary, it is in large demand. The soap used is Gibbs's old brown Windsor, dried and powdered :

Pulv. saponis	lb. iij.
Pulv. iridis	lb. ij.
Cretæ præcipitatæ	lb. viij.
Ol. caryophylli	℥ss.
Ol. lavandulæ ang.	ʒvj.
Ol. rosæ	ʒij.
Acidi carbolici	℥iiiss.
Terræ rosæ	ʒvj.

Triturate the rose pink with twice its weight of chalk, add more chalk, from time to time, triturating until it is thoroughly blended; add the soap also; separately triturate the perfumes and acid with the orris, and mix with the chalk by sifting.

Stock Tooth-paste.

This is a good red paste of the old-fashioned type. The best cochineal must be used, and it should be freshly powdered :

Pulv. aluminis ust.	℥ij.
Pulv. potassii bitart.	℥iv.
Cretæ præcipitatæ	℥iv.
Mellis	lb. ij.
Glycerini	℥viij.

Mix together in a large basin or jar, place in a water-bath, and heat for two hours or so until effervescence ceases, then add to and rub well up with the following:

Pulv. cocci cacti	℥ij.
Pulv. nucis arecæ	℥ss.
Potassii carbonatis	℥j.
Pulv. lapidis pumic. lævig. ...	℥viij.
Pulv. iridis	℥xvj.

Half fill suitable jars with the paste, and set aside for several days, until the colour changes from a dirty purple to a deep carmine, and signs of escaping gas cease.

The paste may be kept so until it has to be potted, when it is prepared by rubbing each pound of it well in a mortar with an ounce of glycerin and half an ounce of perfume, according to the formula in the previous column.

Lemon-syrup.

The increasing demand for temperance drinks, of which lemon-squash is one of the most popular, induces me to direct attention to the following preparation, which is not expensive to make and is economical in use :

Soluble essence of lemon	13 pints
Soluble essence of limes	6 oz.
Lemon-colouring	12 oz.
Caramel	10 drachms
Concentrated rose-water (1-40) ...	6 drachms
Citric-acid solution	3¾ gals.
Syrup	80 gals.

Mix, and add the following solution :

Sodium phosphate	3½ oz.
Sodium acetate	3½ oz.
Salicylic acid	3½ oz.
Water to	35 oz.

Solution of Citric Acid for the above is made by dissolving 21 lb. of the acid in 3 gals. of boiling water.

Lemon-colouring is a solution of lemon yellow 1 lb., golden caramel 24 lb., and water 2 gals., prepared by heat and filtered when cold.

Golden Hop-ale.

This is a good recipe, but the novice in brewing has to be most careful in carrying out all the details of the directions :

Old hops	3 lb.
Bruised Jamaica ginger	2 lb.
Ground quillaia	1 lb.
Ground liquorice	1 lb.
Wormwood	4 oz.
Boiling water	116 gals.

Put the solids in a 120-gal. mash-tub provided with a false bottom, and tap beneath it. Pour on the boiling water, and allow to rest for eight hours. Then allow the liquor to run into a fermenting-vat containing—

Best cane sugar	80 lb.
Caramel	1 lb.
Aurantine colouring	1 oz.

Stir well until the sugar is dissolved, and make up to 120 gals. with water. When the temperature of the liquor is

70° F. add 3 lb. of brewers' barm mixed with 2 gals. of a previous brewing. Mix well, ferment for twenty-four hours, and skim off.

To clarify the ale, put 4 oz. of fine-cut isinglass into a quart jar, and fill it to three-fourths with boiling water. When dissolved thin the isinglass jelly with 6 gals. of liquor from the vat, then put it into the vat, mix well, and set aside for twelve hours to clarify. Draw off into hogsheads, putting into each a handful of hops, and bung up.

In a few days the ale is ready to bottle. Only clean and dry bottles should be used, and the corks must be dipped in the ale before insertion.

Fruit-crystals.

There is a steady and growing demand for fruit-crystals during hot weather, and I have found the following formulæ "go" very well. Tartaric acid in small crystals is used. The flavouring and colouring are mixed with the granulated sugar, the acid then added, and the mixture dried :

Lemon.

Tartaric acid	3 lb.
Granulated sugar	6 lb.
Oil of lemon	2 oz.
Rectified spirit	2 oz.
Quinoline yellow	to colour

Orange.

Tartaric acid	1 lb.
Granulated sugar	3 lb.
Oil of bitter orange	½ oz.
Rectified spirit	1 oz.
Croceine orange	to colour

Raspberry.

Tartaric acid	1 lb.
Granulated sugar	3 lb.
Conc. essence of raspberry ...	2 oz.
Raspberry colouring	a sufficiency

Strawberry.

Same as raspberry, but with 2 oz. of concentrated essence of strawberry in place of raspberry essence.

Cherry.

Same as raspberry, but with 2 oz. of concentrated essence of cherry in place of raspberry essence.

Stone Ginger-beer.

Tartaric acid	1 lb.
Granulated sugar	7 lb.
Ess. stone ginger-beer	8 oz.
Essence of capsicum	1 oz.
Oil of lemon	½ oz.

For Spiced Elderberry-wine (non-alcoholic).

Tartaric acid	1 lb.
Granulated sugar	5 lb.
Essence of spiced elderberry ...	6 oz.
Essence of cognac	1 oz.
Raspberry-colouring	a sufficiency

In each case 2 oz. of crystals go with 1 lb. of sugar and a pint of water to make a syrup.

Worcester Sauce.

The following recipe furnishes a remarkably piquant and appetising preparation :

Garlic	12 oz.
Shallots	28 oz.
Tamarinds	28 oz.
Cloves	4 oz.
Powdered capsicum	4 oz.
Anchovies	3 lb.
Oil of lemon	1 oz.
Sugar	4¼ lb.
Soy	7 lb.
Vinegar	5 gals.

Macerate for seven weeks, with frequent stirring, and strain.

Blue-black Ink.

Tannic acid	3 oz.
Gallic acid	1 oz.
Ferrous sulphate	4 oz.
Iron filings (clean)	2 oz.
Neutral sulphate-of-indigo paste	6 oz.
Powdered cloves	1 oz.
Water	1 gal.

Dissolve the sulphate of iron in 1 quart of water. In ½ gal. put the iron filings, which should stand at least twenty-four hours, with occasional stirring; pour off the clean portion, and add to the sulphate solution. Having dissolved the tannic and gallic acids in a quart of cold water, stir it into the iron liquor, and when fully mixed stir in the indigo; lastly, add the cloves, and keep the ink closely shut up for one or two weeks, then bottle if necessary.

This is a beautiful ink; writes a rich blue and gradually blackens. The iron filings are used to give finer lines and prevent the ink dropping on the paper when written with. The ink gives one good copy with the press, and to increase its copying-power increase the gallic acid, or, instead of the tannic and gallic acids, use the gall-extract, which makes by far the best copying ink.

Soluble Essence of Ginger Ale.

A Belfast formula which has won renown for its excellent pungent qualities :

Bruised Jamaica ginger	12 lb.
Bruised capsicum	2 lb. 3 oz.
Oil of lemon	36 oz.
Rectified spirit	40 oz.
Rectified spirit	6 gals.
Tincture of lemon	2 gals.
Essence of neroli	8 oz.
Water	3 or 4 gals.

Prepare a tincture of the solids with the spirit as follows: Place the capsicums at the bottom of a percolator and the ginger on top, and add 2 gals. S.V.R. Macerate forty-eight hours, and run off; add other 2 gals. S.V.R., macerate forty-eight hours, and run off into the first; repeat this with the other 2 gals. of spirit. Wash down the ginger and capsicums in the percolator with 1 gal. of hot water. Put the 6 gals. of tincture in a jar, dissolve the oil of lemon in the 40 oz. of S.V.R., and add to this; then finally the tincture of lemon and essence of neroli, and lastly water. Try the solubility after adding 3 gals., and if not soluble enough increase it to 4 gals. Shake all together and allow to clear, and it will be ready for drawing off. Then add a few drops of essential oil of almonds to each gallon before filtering.

Essence of Dry Ginger Ale.

Essence of Jamaica ginger (soluble)	℥xl.
Essence of vanilla	℥viij.
Essence of capsicum	℥iv.
Essence of nutmeg	♏lxxx.
Essence of cinnamon	ʒss.
Oil of cognac	♏xxiv.

Mix and filter.

Two ounces of this to a gallon of syrup.

Conc. Essence of Raspberry.

Pulv. iridis Flor.	℥xxiv.
S.V.R.	Ov.
Aquæ	Oij.

Macerate seven days, press, and filter. To each pint add—

Æther. butyric.	ʒiv.
Æther. acetic.	ʒj.
Æther. amylo-acetic.	ʒss.
Ol. iridis	ʒj.
S.V.R.	℥ij.
Chloroformi	ʒss.
Coloris	q.s.

Raspberry Colouring for the above.

Croceine scarlet	ʒj.
Boiling water	℥xx.

Dissolve.

Essence of Cider.

Rectified spirit	Ovij.
Water	Oij.
Amyl valerianate	℥vj.
Butyric ether	℥iij.
Amyl butyrate	℥i.
Amyl acetate	℥j.
Acetic ether	℥j.

Colour faintly with caramel.

From the Other Side.—The possibilities of advertising are not as yet fully realised in this country. Our English cousins can still give us pointers. This is not a jest; in fact, it is a very grave matter, as the reader will shortly see. What American druggist ever thought of advertising himself on a churchyard—on his wife's tombstone? A tombstone in the churchyard at Greenwich bears the following inscription:

Here lies
CLARINDA,
wife of Joseph Grant,
who keeps a chemist shop at
No. 21 Berkeley Road,
and deals only in the purest drugs.

Pharmaceutical Era.

Practical Notes and Formulæ.

Mercurial Cream.

A little over a year ago (*C. & D.*, November 18, 1905, p. 806) we quoted some observations by Lieut.-Colonel F. J. Lambkin, R.A.M.C., on the intramuscular injection of mercury in the treatment of syphilis. One of the preparations which he recommended was a "cream" of the following composition :

Hydrargyri	ʒss.
Adipis lanæ anhyd.	ʒij.
Paraffin. liq. carbol. (2-per-cent.) ad	ʒv. (by vol.)

Finished product equals gr. j. in ♏x.

About the same time we had the opportunity of observing experiments on the cream which were in progress in the laboratories of Messrs. Davy Hill & Hodgkinsons, Ltd., which had been undertaken by Mr. Chas. A. Hill, B.Sc., F.I.C., at the instance of the Army Medical Department, with the view to ascertaining the conditions under which the liquid paraffin separates from Lambkin's cream, and how the mercury can be kept in a finely divided condition. "Fluidity" and "stability" are the essential characteristics requisite in the cream, yet they are opposing characters, and Mr. Hill's task was to find out how to reconcile them. The results of his experiments have recently been published in the "Journal of the Royal Army Medical Corps" (vol. vii., p. 43), and from it we gather the details here given. Lambkin's cream keeps well at ordinary temperatures, but separates when its mercurial strength is increased. It was desired to make creams which would be stable in the tropics, and at least double Lambkin's strength. The department uses largely a 1 grain in 5 minims cream, with practically the same ingredients as the above, which partially separates when kept for two days at 80° to 85° F. Mr. Hill's method of testing is to immerse ½ oz. of the cream contained in a ¾-in. test-tube in a 3½-gal. bath of water at 70°, 75°, 80°, 85°, 90°, 95°, 100°, and 105° F., tubes being kept in baths of different temperatures for a sufficiently long time to observe whether there was separation of an oily layer at the top or aggregation of mercury globules at the bottom. The experiments clearly demonstrated that liquid paraffin is an unsuitable constituent for creams which are subjected to the higher temperatures, the liquid not only separating, but the mercury aggregating so that the original condition of subdivision cannot be attained by shaking. Lanoline is an effective "killing" agent, and prevents separation; but when a certain proportion is exceeded the cream is too viscous, even when heated, for subcutaneous injection. Paraffinum molle was found not to be a satisfactory addition, as liquid paraffin still separated at moderate temperatures. Finally the author succeeded in eliminating liquid paraffin by using a special paraffinum molle, intermediate in its properties between B.P. soft and liquid paraffins. It has a melting-point of 73° F., and by heating to 480° F. was found to be free from liquid paraffin, and cooling to 15° F. proved it to be free from solid paraffin. The following satisfactory creams were prepared with this :

	1 gr. in 4 m. For 75°.	1 gr. in 4 m. For 90°.	1 gr. in 5 m.	1 gr. in 10 m.
Mercury (parts by weight)	5	5	2	1
Lanoline „ „ „	4	10	3	3
Special paraffin (with 2 per cent. phenol) to fl. parts	20	20	10	10

The most generally useful strength of cream is 1 grain in 5 minims. Liquid paraffin can only be used in a cream for cold climates.

Cutting Up Wax.

The "Chemist and Druggist of Australasia" reminds its readers that for cutting beeswax or cocoa-butter the household suet-scraper is very useful. This little device is not widely known. It takes the place of the suet-chopper, and is a modification of the bread-grater. It is a flat steel plate about 9×3 in., with holes punched in it, and the steel at one part of the hole raised a little, so as to give a cutting edge. It is easily cleaned.

Eau de Quinine.

The following is a new formula published by "Der Seifenfabrikant" :

Spirit (90-per-cent.)	300 oz.
Glycerin	16 oz.
Tincture of cinchona	16 oz.
Eau de Cologne	40 oz.
Extrait reseda	7 oz.
Extrait heliotrope	7 oz.
Orange-flower water	25 oz.
Tincture of catechu	4½ oz.

Mix in the above order.

Disinfectant Solutions.

The following are the disinfectant solutions which are given in the last edition of the "Regulations for Army Medical Service" :

Chlorinated Lime-wash.

Chlorinated lime (B.P.)	2 oz.
Quicklime	½ gal.
Water to	1 gal.

Cresol Solution (2½ per cent.).

Saponified cresol (liq. cresoli. saponatus Ph. Germ.)	4 oz.
Water to	1 gal.

Corrosive-sublimate Solution (0.1 per cent.).

Corrosive sublimate	70 gr.
Hydrochloric acid	3 dr.
Water to	1 gal.

The solution should be tinted with a sufficiency of commercial aniline-blue, about 1 grain to the gallon, to make it a distinctive colour.

Formalin Solution.

Formalin	8 oz.
Glycerin	8 oz.
Water to	1 gal.

One gallon should be used for every 400 sq. ft. of surface to be disinfected.

Paraphenylendiamine Hair-dyes.

Occasionally it is reported that one-solution hair-dyes prepared from paraphenylendiamine cause symptoms of poisoning and intense irritation of the skin. The subject was investigated some time ago by Mr. Hans Blau, an Austrian chemist, and he states that the objectionable symptoms are not due to the amine itself, but to its oxidation-product, the Bandrowski base. When a solution of paraphenylendiamine is mixed with hydrogen peroxide and allowed to stand for an hour or two at the ordinary temperature it becomes dark, thick, and deposits crystals, which are the Bandrowski base. A similar change takes place when a solution of the amine is applied to the hair, and Mr. Blau states that the base causes the irritation, which has also been observed in the dyeing of fabrics. But in regard to its use as a hair-dye he believes the injurious effects to be exaggerated, and it is not until the solution decomposes and deposits the Bandrowski base that irritation of the skin is caused. Paraphenylendiamine dye he believes to be better for the hair than any other organic hair-dye, and as long as it is free from deposit it is not at all injurious. To detect paraphenylendiamine in solution it should be applied to a piece of wood, when a brick-red colour is produced in every grain of the wood, which is accelerated and strengthened on adding acetic acid, but is destroyed by alkalies.

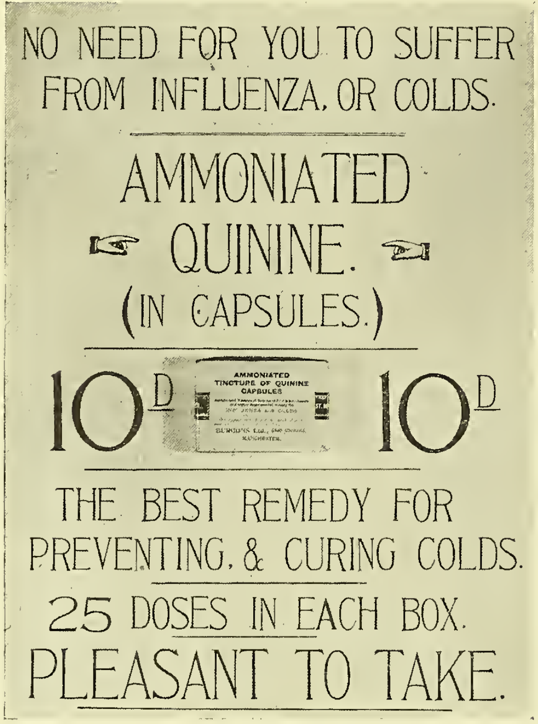
In advertising, one cannot afford not to be a constant student of human nature.—*Printers' Ink.*

More than $300,000,000 is probably not an extreme total for the aggregate advertising expenditure in the United States in 1905. Of this it is estimated that $145,000,000 went to newspapers and magazines alone. Posters, handbills, street-car signs, illustrated booklets, electric signs, and kindred methods consumed the difference in these amounts.

"Are you the proprietor of this shop?" asked the young man with the sample-case. "I am," said the chemist. "Is there anything ——" "Have you any assistants besides that young man behind the counter?" "No, sir." "Then I can't do business with you. I am introducing a preparation guaranteed to make thin people plump, but you are too skinny here to handle it. Sorry. Good-day."

More Window-tickets.

WHILE we were publishing the results of the Window-ticket Writing Competition we received several examples which could not be included in the report, either because they arrived too late or for other reasons. These we now reproduce and describe. The example given in fig. 1 is a card 19 in. by 14 in., and a specimen of how to use a sign-marker to the best advantage. It is by Mr. J. W. Wigglesworth, of Heaton Park. The lettering is well displayed, and the important item of price is put in a prominent place. The feature of the card is, however, the use that is made of a package of the capsules advertised on the card. The box (it need only be a dummy) is labelled and finished off just as the boxes are for sale, and is then fastened to the card with glue. Mr. Wigglesworth assures us that this method has been very successful for bringing business. The cards such as are rejected by picture-framers are excellent for printing on with sign-markers, and are obtainable at a cheap rate. After cutting the card to the size required, a neat job can be made by sand-papering the edges. We also received from Mr. John Sanderson, registered druggist, 17 Bridge Street, Ballymena, an example of his work in ticket-writing. The base of this is a card covered with brown paper, and the lettering is painted on in oil-colours. Black, yellow, and red are the pigments employed, the letters being shaded with white. Fig. 2 is a design for a cough or cold mixture showcard, which Mr. C. Taylor, of Tintagel, North Cornwall, has designed. The idea is a good one, and it has attracted much attention from those who have seen it at our office. It does not need words to convey an idea of the bleak days which cause colds to those who are exposed to such weather; the weary wayfarer who stops to read the wayside notice-board shows more eloquently than words that he is already in the grip of influenza or some similar ailment. Mr. Taylor has evidence that his cards have brought business, which, after all, is the test of a successful advertisement of this kind. The interesting paper by Mr. W. R. Robb, 81 Hallam Street, Portland Place, London, W., which appeared in THE CHEMIST AND DRUGGIST, September 15, 1906, p. 436, was one of the starting-points of the recent competition. If our readers will refer to that article, they will gather much as to the way Mr. Robb works, but the example which is given in fig. 3 is new in the way a photograph has been utilised for a price-list cover. From the quarter-plate negative a bromide enlargement was made, and on this the lettering was done in Indian ink and Chinese white. The lists as sent out by Mr. Martindale are 8½ in. by 6½ in., and round the edge of the photograph there is a narrow white margin, and outside this a narrow edging of red, the body-colour of the cover.



NO NEED FOR YOU TO SUFFER
FROM INFLUENZA, OR COLDS.

AMMONIATED
☞ QUININE. ☜
(IN CAPSULES.)

10D AMMONIATED TINCTURE OF QUININE CAPSULES 10D

THE BEST REMEDY FOR
PREVENTING, & CURING COLDS.
25 DOSES IN EACH BOX.
PLEASANT TO TAKE.

Fig. 1.

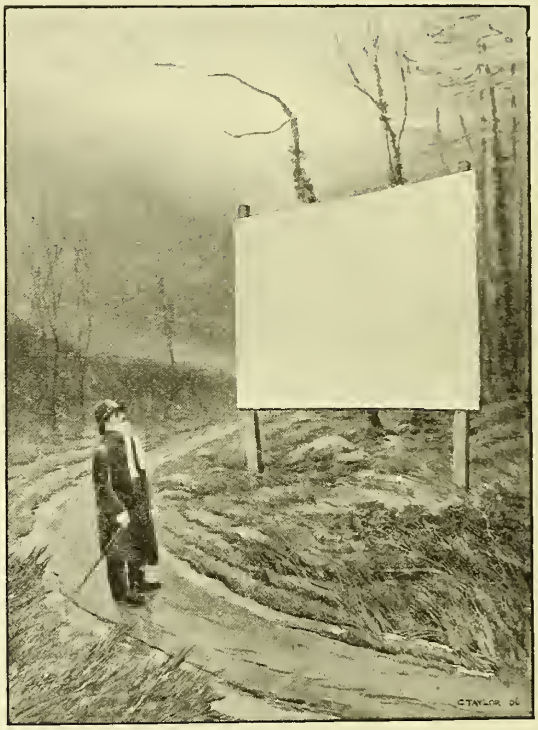
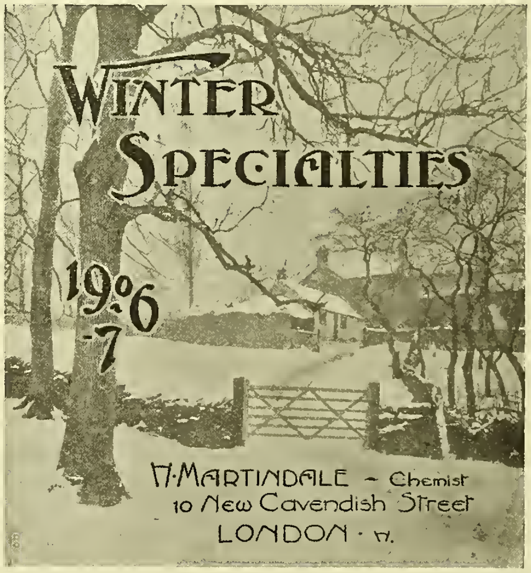


Fig. 2.



WINTER
SPECIALTIES
1906
-7

W. MARTINDALE – Chemist
10 New Cavendish Street
LONDON · W.

Fig. 3.

Recreation in Rhodesia.

THE illustration herewith throws a luminous glow on the manner in which our *confrères* in Rhodesia find recreation from pharmacy. In October last, Mr. George Drakes, chemist and druggist (of Strachan & Co., chemists, Salisbury, Rhodesia), Mr. F. E. Woods, also a chemist and druggist, and two friends went out on a big-game shooting expedition in the Hartley district, and their "bag" is shown in the centre of the picture. The total "bag" (only a part of which is seen in the picture) included four eland, three roan, one sable, seven waterbuck, one isseba, six reedbuck, two klipspringer, two duiker, one steinbuck, and three wart-hogs. In 1905 the same party killed among other things a rhinoceros, a photograph of which Mr. Drakes sent us along with the one we have reproduced.

C. & D. Diary, 1907.

THE following are some more expressions of opinion sent in by home subscribers, and others will be printed in succeeding issues. We have not yet touched the cards sent by Colonial and foreign subscribers. The voting-cards will be dealt with separately.

The "Information Wanted" cards may be sent in at any time, as they are not competitive, and the object of our asking for them is to enable us to reply promptly to inquirers for specialities made by our subscribers.

A vade-mecum of aids is the *Diary* this year,
With Medical Dictionary and Formulas clear,
Legal advice and Buyers' Guide, too,
All for 10s., includes weeklies fifty-two.
Let it be 'Xmas, Michaelmas, Lent,
Or whenever the landlord comes around for the rent,
Your helper is nigh, from Cannon Street sent
For the nimble 10*s*. that you have well spent.
A. McGinnis.

It is a book of extreme value to all busy chemists and druggists, seeing that it contains so much useful information arranged in a manner so easy to find.—*J. Ritchie.*

THE CHEMISTS' AND DRUGGISTS' *Diary*
For every kind of inquiry
Is the best for the trade
That ever was made;
For it makes everyone a good buyer,
From the smallest of men to the big store high-flyer.
J. U. Baker.

The most useful and concise book of reference that a chemist can possibly possess. Further improvements seem impossible.
J. L. Cobb.

The *C. & D.'s* a useful book,
That no one can deny;
The wholesale names and places, too,
You'll find before the eye.
No other diary's so complete;
And this you'll always find,
The more you use it, you will want
Another of its kind.
Miss Gertrude Douthwaite.

Hearty congratulations on the appearance of the 1907 *Diary*. The "Chemists' Medical Dictionary" should prove a most useful feature. The day after my copy arrived a *confrère's* apprentice (in his employer's temporary absence) rang me up to ask the meaning of the word "colotomy," which a customer had thrown at his head. Had said chemist been a subscriber to your admirable journal, said apprentice would have had your dictionary on the desk, and would have been able to cope with his client on the spot. *Verb. sap.* One is also gratified to find in the present *Diary* a continuation of the splendid "Business Hints" commenced in the 1906 edition; and one shares the Editor's regret "that pressure on space has compelled the sacrifice of several pages of this section."—*C. S. Ashton.*

Try the *Diary*, and you will see
The proof of the pudding here to be,
In buying from those whose advert. here shows
They know what is wanted by picture and prose.
Miss R. Thornton.

The 1907 *Diary* is, as usual, the friend in need, which alone is worth the annual subscription to the *C. & D.*—*J. W. L.*

AS THE MONTHS ROLL ROUND
DECEMBER BRINGS TO US
OUR ANNUAL BOOK

AND CHEMISTS EAGER
ANXIOUSLY ASPIRE
TO HAVE A LOOK.

THE CHEMISTS' AND DRUGGISTS' *Diary*

"PRIMUS INTER PARES"
IS THE VERDICT
THIS SCRIBE SENDS.

MAY IT EVER BE
SURROUNDED BY A
MULTITUDE OF FRIENDS.

I have received *Diaries* from you for a good many years as a subscriber, but I think this one for 1907 beats all records for right-down usefulness in trade and general information, and *alone* is well worth the charge of 10*s*., independent of your weekly *C. & D.* journal.—*W. Davies.*

To the master a valuable assistant, to the assistant a valuable companion.—*F. Snow.*

C onglomeration of facts is the *Diary* this year,
H elper to Pharmacists, and always near;
E very time issued it adds to its fame—
M ost in the trade will tell you the same.
I n every page devoted to aids
S uitable for druggists of every grade.
T he legal tips, too, make the user repaid.
&
D *iary* complete with formulas rare,
R esults obtained only with greatest of care.
U sers of old without its aid would be lost,
G ood Pharmacists: how can you reckon its cost?
G reatest of all is the labour it saves
I n seeking that knowledge the druggist so craves.
S tanding alone in claiming your credit
T he *C. & D. Diary* stands on its own merit.
A. Norweb.

An up-to-date book of reference There is money in it.

Of presents this year I've had many,
But the *Diary* is better than any;
It's the most useful book.
For by its use we can hook
The man with the pound or a penny.—*E. E. Jones.*

The *C. & D. Diary* may be well likened to bread—well raised and not dry. Food for all, and to be found in all parts of the world. Of daily use, and, it is hoped, profitable alike to producer and user—the (chemists') staff of (business) life.
E. T. Sage.

"What do you think of the *Diary?*" you ask.
Well, Sir, you have set me a difficult task.
I have racked my poor brain with a search most religious
To beat Dominie Sampson's description "Prodigious!"
J. J. Witten.

The *C. & D. Diary* for 1907 is like the British Army and Navy: "It cannot be beaten."—*H. R. G. Skelton.*

Of all diaries the *C. & D.'s* is the most progressive and productive. It is without doubt an essential element towards success in every chemist's business.—*D. R. Jones.*

"On the knee," or off the knee,
By fireside or in shop.
I'm glad to have the *C. & D.*—
The *Diary* that's tip-top!—*Ida Rutter.*

Cathartics and Cholagogues.

By A Medical Practitioner.

CATHARTICS may be defined as substances which act on the intestines so as to increase the amount and the frequency of the discharges. Cholagogues are understood in a general way to be substances which increase the flow of bile; some authorities, however, hold that there is a good deal of doubt attached to the bile-flow-increasing action of the so-called cholagogues. Whether this position be strengthened by facts observed clinically or not, there can be no doubt that many of the ordinary cathartics, especially those which act on the upper part of the intestine, do increase the flow of bile into the intestine; there can also be little doubt that this action is due in most cases to their presence in the intestine stimulating reflexly the gall-bladder or the bile-ducts, or both.

Some cathartics act by stimulating the muscular coat of the bowel through their action on the mucous coat, some act by simply increasing the secreting activity of the intestinal glands, while many act on both the glands and the muscle, increasing secretion as well as peristaltic action. It is also interesting and of great practical importance to note that cathartics may be classified according to the part of the bowel on which they exercise their main action when given in minimal doses, some acting selectively on the upper part of the tract, others on the lower, while a considerable number of them act equally throughout the whole length of the bowel. It will thus be evident that the prescribing of cathartics should not be indulged in in the haphazard way which is too common. In addition to the facts already mentioned, there are others which the intelligent prescriber should have in his mind when casting about for a suitable purgative; for example, substances which are very soluble have to be given in larger doses than those which are less soluble, or insoluble, in aqueous menstrua; the prescriber is usually kept right in this matter by having the official record of dosage to refer to. Again, cathartics of a resinous nature require the presence of bile in the intestine for their action; it is therefore useless to give them where there is reason to suppose that there is a stoppage of the normal bile-flow, and equally useless to inject them into the rectum.

What Effect is Wanted.

Before considering the details touched upon, there is one general question which should overshadow everything else in the prescriber's mind. What effect do I wish to produce? The answer to this is—naturally—dependent on a consideration of all the symptoms of the case and of certain points in the history. For example, it may be thought advisable rapidly to get rid of some irritant—food, poison, or auto-intoxicant—before proceeding to further treatment, or with a view to clearing up the diagnosis; or the prescriber's sole aim may be to cause a liquid evacuation for the purpose of reducing general blood-pressure, or curing a serous effusion; or—and this is the most usual direction in which cathartics are used, often injudiciously—it may be necessary to treat a case of habitual constipation. In the first example mentioned it should be remembered that some drugs possess antiseptic as well as cathartic properties, and are therefore often of particular value in such cases; in the second example the conditions of arterial and venous pressure have to be carefully weighed before deciding between a hydragogue cathartic and a nitrite; the third example requires equally careful consideration, because the habitual constipation may be due to a stricture of the bowel, to excessive functioning of the absorbing mechanism of the large intestine, to a weakness of the peristaltic mechanism, or simply to an acquired bad habit in the individual of neglecting the hints given by the nerves in the neighbourhood of the rectum and pelvic colon.

For the sake of clearness and easy reference it has been thought advisable, after stating general considerations, to treat each drug separately, referring it to its pharmacological class as far as possible, but devoting special attention to its practical therapeutics. The questions of true obstruction, of peritonitic paralysis, and of the value and composition of enemata in these and other conditions, are outside the scope of the present article.

Magnesium Sulphate

is perhaps the most commonly used of all cathartics. It has been found by experiment that it owes its activity to the capacity which it possesses, in common with other salines, of promoting osmosis—that is, it causes the passage of fluid from the intestinal wall and surrounding tissues into the intestinal lumen; it is thus usually classed among hydragogue cathartics, because its most evident action is the production of watery evacuations. It also has some stimulating action on the mucous, and through that on the muscular, coat; but this action is slight compared with its osmotic action, and for this reason it is often combined with substances which have a more definite action on peristalsis, such as sulphuric acid (in the form of Henry's solution) or senna (in mist. sennæ comp.). Its activity being independent of the presence of bile, it is of great value in the form of an enema, and as such is largely used after abdominal operations and in conditions where it is desired to avoid its irritant action on the stomach. Its chief indication is in cases where it is required to remove fluid from the tissues, as in œdema; from serous cavities, as in ascites and hydrothorax; from the veins and right side of the heart, in cases of failure of compensation arising in the course of valvular or myocardial lesions; in general plethora; and in cerebral compression. In order to obtain its maximum action it should be given in fairly concentrated solution—say, ½ oz. in a wineglassful of water, repeated when necessary. Recently magnesium sulphate has been largely used in the treatment of tropical dysentery. It is interesting to note that in doses too small for purgation it acts as a diaphoretic and diuretic.

Magnesium Carbonate and Oxide

in large doses have a similar action to the sulphate, but are less irritating; they become converted into chlorides in the stomach, and have the additional advantage of acting as antacids and being practically tasteless. They are therefore useful laxatives for children, but should not be given for long periods as they have been known to form concretions in the bowel. The carbonate has some advantage over the oxide in that the carbon dioxide liberated from it in the stomach has some action in reducing sensibility.

Sodium Salts.

Sodium Sulphate resembles magnesium sulphate in its action, but is less bitter, and is therefore useful in one or two teaspoonful doses as a morning draught in persons of plethoric habit.

Sodium Phosphate deserves to be more largely used than it is. Its pharmacological action is similar to that of the last two salts; it is almost tasteless, it passes into the blood as an alkaline phosphate, and in its elimination through the kidneys it has a distinct effect in reducing the acidity of the urine. It is one of the safest and best laxatives for children. It has been found of great service in catarrhal affections of the alimentary canal and in catarrhal jaundice, its effect in both these conditions being partly due to its purgative action and partly to its alkalinity, the latter reducing the viscosity of the bile and tending to prevent the formation of deposits of cholesterin. In small doses it acts as a diaphoretic and diuretic.

Soda Tartarata, like sodium phosphate, is mild and tasteless. Like all salts of organic acids, it tends, when it passes into the blood, to increase alkalinity, and exerts a similar action on the urine. It is best given well diluted, and in the time-honoured form of seidlitz powder it is one of the most useful and popular of saline cathartics. It should be remembered, however, that to those who dislike an effervescing draught it may be given in one or two teaspoonful doses in a glass of water first thing in the morning, and forms a by no means unpleasant draught, especially if flavoured with a little tincture of orange.

(*To be continued.*)

Among the imports into Cyprus last year were medicines and medical appliances valued at 2,700*l*., against 1,918*l*. in 1904, or 782*l*. more. Although Cyprus is under British rule, only 830*l*., or 31 per cent., of the above imports were obtained from this country. The perfumery-imports were valued at 808*l*., but here, again, only 8 per cent. of this was shared by Great Britain, whose share in 1896 was 13 per cent. Soap-imports were valued at 9,983*l*. in 1905, of which our share is 8 per cent., or 821*l*.

The Rawlins Oil-printing Process.

THIS photographic process is coming in for a good deal of attention at the present time, owing chiefly to a recommendation of the process by M. Robert Demachy in a recent number of "Camera Work." As photographic-chemists are looked upon by amateur photographers as encyclopædic in their knowledge, we think a condensed account of this artistic printing process will be welcomed. The process was invented by Poitevin in 1855 and patented in England (2815 of 1855) as a photolithographic transfer process. The specification contains a note that the image may be left on the support upon which it has been developed. Scarcely anything came of the process till in 1904 it was resuscitated by Mr. Rawlins, who saw in the original method a means of giving effect to pictorial modifications of a photographic image. Recently Demachy drew a comparison between the Rawlins process and collotype printing. He wrote :

> Photographers are supposed to know that a thin layer of bichromated gelatin when exposed to light in contact with and under a negative will shortly develop a brown image, which once plentifully washed and then dabbed with blotting-paper will show a faint relief and a curious difference of surface between the exposed and protected portions. These last will be damp and shiny, the others matt and relatively dry. This is the first stage of the Rawlins process. At the next photography steps out, it has nothing whatever to do with the rest of the operations, which are as follows: If a layer of greasy, coloured ink is spread over the damp film, it will stick to the matt parts and be repelled by the moist ones—a positive image will result. Not a crude black-and-white image, such as one would expect, but one with the most delicate half-tones and the most perfect modelling. Spread the gelatin over a piece of glass, and you will have a collotype plate; spread it over a sheet of paper, and you will have a Rawlins print. It is simplicity itself. Collotype-printing is used all the world over, so it is but natural that Mr. Rawlins should have chosen at first the collotype-inking method—with the roller. But his thin gelatin film spread over wet and spongy paper was often more or less abraded by the repeated passage of the rubber or leather cylinder, and the fatty ink, sinking through the disintegrated gelatin, stained the underlying paper and spoilt the picture—spoilt it irretrievably. Moreover, the mechanical action of the roller suppressed all possibility of interpretation on the part of the worker. The only difference between the Rawlins and the collotype process was that the Rawlins print was unique and the collotype print numberless—both were impersonal.

Now this is where the process, as originally propounded, and even as modified by Mr. Rawlins, failed. The "personal element" in photography is more to the fore now than ever it was, and photographers belonging to the pictorial school are ever on the look-out for a printing process which gives them the greatest scope for their artistic instincts. From this point of view the Rawlins has many disadvantages, and these so far outnumbered the advantages that the process has never become so popular as, say, gum bichromate, which particular method of producing pictures it was expected to entirely outclass. Mr. Rawlins afterwards suggested the use of stencil-brushes in addition to or in place of the roller, and with this suggestion came the pictorial possibilities of the process.

The papers used and recommended by Demachy are Nos. 100, 103, 118 (matt engraving), 118 shiny, and 125 of the double-transfer carbon-papers, "T.I.C. Horseshoe brand." These papers are of English manufacture. There are probably other double transfer-papers which will give as good results, and Mr. Rawlins has had a special paper prepared for his process which should be obtainable in this country. The brushes employed by Mr. Rawlins are those used by porcelain painters, and are made of bears'-hair, with nearly flat surfaces. Demachy uses a brush of the same nature, but shaped like a stag's-foot, and he also uses them of different sizes—broad brushes for slightly inking the whole of the surface as a preliminary operation, and smaller ones for the final inking manipulations, down to small sable brushes for fine high light work. The ink originally used has also come under Demachy's modifying influence ; instead of using one ink—the special kind made by Mr. Rawlins—he emphasises the necessity of having at one's disposal inks of different thickness and composition. The general rules governing their use are laid down by Demachy thus : Thick tacky ink causes contrast ; fluid ink, such as ordinary oil, flatness ; thus it follows that an over-exposed print will give a good image with thick ink, no image at all with fluid ink, as it will ink all over, and *vice versa*. Moreover, Demachy often uses several inks of different tackiness on the same picture or part of a picture in order to tone down any false values produced by the negative. Demachy has further quite abandoned the Rawlins method of sensitising, which was to immerse the coated paper in a 10-per-cent. solution of acidified potassium bichromate, and in its place uses the following :

Ammonium bichromate	5 grams
Sodium carbonate	5 grams
Water	100 c.c.

This stock solution is used thus : To 5 c.c. add 10 c.c. of 90-per-cent. alcohol, then, having pinned the gelatinised paper to a piece of blotting-paper on a drawing-board, brush this diluted solution over it from right to left with a 2-in. wide flat hog's-hair brush. Paper sensitised with this bath dries in about fifteen minutes (Mr. Rawlins's paper took some hours), and when printed the subsequent washing and soaking operations are completed in much less time than was originally necessary, because the gelatin only is charged with the bichromate instead of both gelatin and paper. The paper is printed until the detail is just faintly visible in the high lights. It is then washed for a few minutes or until the yellow bichromate colour has disappeared, and soaked in water for about half an hour. The paper is then blotted with fluffless blotting-paper to remove water and supported on a piece of wet blotting-paper resting on a sheet of stout glass, and the pigmenting process (inking) commenced. It is here that "photography steps out." Taking the brushes and palette, the artist first inks slightly the whole surface so as to get a general idea of the work. Then, using first one brush and then another, with the different inks the picture is gradually worked up to the artist's preconceived idea of his picture. The process is painting—it is not photography at all.

The quicker and more decisive the touch of the brush the better will be the result. Adding colour and taking it away again produces a result much inferior to that produced by the quick and sure touch of the brush. If it is desired to absolutely remove all traces of pigment from the picture, a rag soaked in petrol is the most convenient solvent, as it dries very quickly. Petrol is also useful for cleaning the brushes.

It will be seen by the foregoing outline that the Rawlins process as modified by Demachy opens up a field of artistic photography—it is a process for the artists, totally distinct from any process used in photographic printing, and capable of producing such artistic results as are unattainable by any other process known to photographers. The process is far from perfect yet, and opens up a fine field for investigation by chemists, to whom so many of the improvements in photography are due.

The Chemical Novel has yet to be written. The idea is full of possibilities—and very little else. However, we give an example (by a B.Sc. 65/69) of how Chapter II. might read. It is entitled "He Proposes."

> "Oh, my beloved, I know full well I am only an atom of hydrogen, the lightest of them all and colourless, but, believe me, I do love thee, oh my Chlorine, with thy wonderful colour and divine odour, more than I do love my atomicity. Thou art the twin-star of my soul. And oh, fairest of the Halogen cousins, with thy slow and graceful motion, thou wert indeed made for me—for me, the first at the Periodic Table, also, alas ! the fastest of my set. Trouble not your lovely form, free yourself from your sister atom and fly with me in our grand endless dance. May I be burst into electrons if I ever, ever leave thee ; no, never, not though the fascinating bigamous Oxygen collide with me when nascent. Come, sweet Chlorine, I prithee change thy name to Hydrogen-Chloride. Through the ages we will roam together, and though hard Metals glitter, never shall they take you to their bosom and thrust me forth."
>
> And the world of atoms said, "Humph ! We really cannot think whatever they could see in each other."

Good advertising pays all the time. Advertising that is not particularly good pays most of the time, and it must be very bad advertising that does not pay some of the time.

Our Town Traveller

DURING the past few weeks I have been in personal touch with practical men in the wholesale and retail drug-trade, both in town and country, and there is a decided opinion that trade in general, and in pharmacy in particular, is steadily on the up grade. The country has emerged from the period of depression in which it was enveloped in recent years, and the prospects are brighter and more hopeful than they have been for some time past. In retail the spending capacity of the purchaser is said to be still restricted; but trade is good, and the era of good times—probably better times than ever before—is in prospect. Retailers and wholesalers alike are very well satisfied with the Christmas season just finished, and January has, so far, been so busy a month with most that it augurs well for the rest of the year.

In Sundries

this good omen has been well marked. "We are fearfully busy," said the ever-cheerful Mr. Samuel Roberts to me the other day, as I looked in at Clerkenwell Road to see how things were with May, Roberts & Co., "but come in and have a rush round our newest departments." Accordingly I threaded devious paths among packing-cases, packers, warehousemen, clerks, and typewriters, and under his guidance ultimately reached the new floor at No. 13 recently added. One does not add 100 by 13 sq. ft. to one's premises on a decreasing business. Nor does a shrewd business-man like Mr. Roberts acquire the lease of the adjoining premises (No. 7) for fun. Within the year May, Roberts & Co. will be the occupants of almost the entire block—No. 7 to No. 13 Clerkenwell Road—which shows a confidence in the future there can be no mistaking. The ground floor at No. 13 is the only part not now belonging to the well-known sundries-house, and they will move into No. 7 some time during the year, as soon as the present lease expires. Reverting to the new floor, I found it fitted and filled with stock and a new invoice-typing office and foreign-letter department constructed in one section. In this office the method of filing letters is of the most modern type; indeed, Mr. Roberts is great on up-to-date business-systems. In the counting-house on an adjacent floor he explained the method adopted with a series of order-forms to facilitate the despatch of goods with the maximum of accuracy and the minimum of time. As the orders come in they are copied on these printed forms, which are of different colours—pink for export, green for Ireland, and so on—and sent at once to the various departments for execution. Telephonic communication all over the house precludes the necessity for wasting time running up and down stairs. The photographic department has recently been added to, and is kept thoroughly up to date and well stocked. There is a special showroom for photographic goods on the same floor, besides the ordinary showroom on the ground floor and a comfortable office for the manager of the department. Taken all in all, my flying visit demonstrated that the business is in a condition of healthful activity and steady progress.

Seeds

are a seasonable side-line for chemists, so I interviewed one or two seedsmen on the subject. Mr. Wren, of Potter & Clarke, Artillery Lane, E., told me, what I had suspected before, that chemists, particularly in the suburbs, do not make enough of this side-line. It is a nice trade, no trouble, the flower and vegetable seeds usually sold being packed in penny or larger-priced packets, and the profit is good. An expenditure of 5*s*. upon a gross of penny assorted seeds for the garden will pay itself and more if one takes the trouble to cultivate the trade and see that fresh seeds are stocked. Nearly every resident of Suburbia prides himself on his garden, and an intelligent interest in the growth of his mignonette, Virginian stock, asparagus, broad beans, peas, brussels sprouts, brings not only kudos but profit to the chemist. Messrs. Potter & Clarke have special counter showcases, with gold lettering, containing a two-gross assortment in penny packets, which they sell at 10*s*. net. Otherwise seeds may be obtained on ½-gross cards. Empty pockets are also supplied at 1*s*. per 100, or 5*d*. per packet of 25, to such as desire to put up their own seeds from bulk. But this practice seems hardly worth the trouble unless a very large seed-business is done. While at Artillery Lane I sampled the "Five Barks" jujubes, which have caught on so well that they are selling at the rate of a ton a week. Some retail chemists are ordering them by the hundred-weight. They are composed of Canadian pine, slippery elm, cherry-bark, white-pine bark, and liquorice in a soft gelatin medium. The jujubes are pleasant and warming to the taste, and cost the retailer 9*d*. per lb. in 4-lb. boxes or 8*d*. per lb. in 7-lb. boxes.

On the question of seeds for chemists I likewise had a talk with Mr. Macdonald, of James Carter & Co., the seed-merchants of High Holborn. Carter's seeds are known all over the country, and Mr. Macdonald informed me that they do a fair business with chemists, particularly in Wales and the North of England. He was very strong on selling only the best-selected seeds, and was rather scornful of the penny-packet trade. Carter's seeds, flower and vegetable, may be obtained in threepenny packets, the name of "Carter" on the packet being a guarantee of quality. Retailers are allowed 20 per cent. on all packets sold, a rather good idea, for the unsold packets may be returned the same season as obtained, and a fresh stock procured for the following season.

In the matter of

Sponges

there is seldom anything particularly novel. The most notable feature at present appears to be the steady increase in the price of best sponges. So I learned on a visit to the establishment of John Phillips & Sons in Dingley Road, City Road, E.C. Turkey sponges particularly are dearer, owing probably to a bad harvest, but Mr. Phillips is quite complacent on the subject, for he has just warehoused a large consignment of the best qualities, bought before the rise. I inspected about 7,000*l*. worth in original cases on one floor alone, so that buyers would do well to give a look in at Phillips's showroom at an early date to get the benefit of the keen buying. Last year, with its long hot summer, was a very good year for the sponge-trade, and both Mr. Phillips and Mr. Lawrence Cohen (of I. & M. Cohen, Houndsditch, E.), on whom I also called, said they had done very good business. Mr. Cohen, however, pointed out that expenses are increasing at rather an alarming rate, particularly in the way of rents, rates, and taxes, and that tends to keep down net profits.

Grasse in London.

Being in the neighbourhood of Great Tower Street the other day, I called on Mr. T. Déthomme, the genial manager of the new branch which Mr. Antoine Chiris has just opened in London at Nos. 43, 44, and 45 in that thoroughfare. The house of Chiris, which was established at Grasse in 1768, is doing an increasing business with the United Kingdom, and in order to facilitate this and come more in touch with clients, the proprietor decided to create a branch house. In addition to the raw materials for perfumers and soap-makers manufactured by Mr. Chiris, the London branch, I am told, will stock a full line of the various imported articles, similar to those handled for some years on other markets. These include the many exotic products for which the firm of Chiris is so justly famed. Judging by the large and commodious offices and warehouses the house has secured, the branch, I feel sure, has every facility for carrying on a large business satisfactorily, and these efforts will be ably seconded by the branches at Paris, New York, and Hamburg, and the Grasse and Boufarik factories. Mr. Georges Chiris, the owner of the firm, received a few days ago the distinction of "Chevalier de la Légion d'Honneur" from the French Government as a reward for the progress accomplished in his factories and floral cultures in France and Algeria and the large impulse given to this particular industry. I congratulate him on this flattering distinction.

The Gramme Weight

is the trade-mark of Messrs. John J. Griffin & Sons, Ltd., manufacturers of chemical apparatus and British agents for the pharmaceutical machinery of Arthur Colton, of Detroit. The last time I visited Messrs. Griffin their premises, comparatively new, were in Sardinia Street, but as the building was in the way of London's magnificent new thoroughfare—Kingsway—a move had to be made. The opportunity was taken of obtaining a site just off the new Kingsway, and it was there that I spent a pleasant morning one day this week. The new premises are three times the capacity of the old building, and, in addition, there is the photographic-paper factory which must necessarily be situated in the country where the atmosphere is dustless. The building is five storeys high, and embodies all the latest requirements of the Building Acts as regards the safety of the occupants. The entrance is quite imposing, and inside one sees a huge semi-circular counter where purchases are made. All round are showcases, and in these, as my guide—Mr. H. M. Read—pointed out, are samples of the various pieces of chemical and physical apparatus made or dealt in by the company. The articles are arranged in the same order as the bulky catalogue which Messrs. Griffin issue. Catalogue in hand, it is possible to follow the items in the showcases from page 1 to the end—the cases are, in fact, a living catalogue. The convenience of this will be appreciated on visiting the establishment, as when one sees the different kinds of a similar instrument it is easier to settle one's preference than by an inspection of the catalogue. I noted in one corner of the ground floor that there is a testing-room where customers can have demonstrated to them the relative advantages of, for instance, various Bunsen burners, or test a polarimeter, the windows being completely fitted with black blinds for converting it into a dark room. On the opposite side of this showroom is a saloon devoted to the photographic papers which the company make or are agents for. There are fine examples of the work that can be done with the various papers, the lighting of the pictures being skilfully done by shaded electric lights along the tops of the panels. Next I went on a tour of the building. Roughly, there are complete floors devoted to the general offices, physical apparatus, chemical apparatus, and workshops, each being provided with telephones, lifts, and other modern labour-saving devices. I was struck by the ingenuity that has been displayed in arranging the departments. The factory part of the building was particularly interesting. Here one sees in process of manufacture both complicated and expensive apparatus and the humbler articles used in school laboratories. If I were to attempt to explain all I saw I should want the greater part of this issue of the *C. & D.* I must note, however, the excellent system in vogue of getting at the cost-price of manufactured articles. The material given out to the workmen is checked and priced on cards, and on the front is a record of the time spent on making the piece of apparatus, a mechanical time-recording clock being used. In this way it is easy to arrive at the average net cost of any article, and the method seems fair to the workman and his employers. On the fourth floor, in the chemical-apparatus department, is a complete set of the Colton pharmaceutical machines, except the tablet-machine, which, owing to the exceptional demand that has arisen for it in the last few months, sells as fast as it can be imported. I have before described the wonderful pill-making machines, which work with an intelligence almost human; and the suction gelatin-coating machines. I began to think of the ardent years of my youth which had been spent in laboriously rolling pills on a hand-machine. Here is a machine which could probably turn out in a day more pills than an average pill-maker could produce in a month. *Tempora mutantur, et nos mutamur in illis.*

Weights and Measures.

A query from a country subscriber regarding the use of a particular kind of counter-scales led me to seek the expert advice of Mr. A. J. Street, the chief inspector of Weights and Measures for the City of London. I found Mr. Street, genial and courteous as ever, in his snug new offices in the City Green Yard, Whitecross Street, E.C., and, after giving me a careful and detailed opinion on a technical point, he escorted me all over the fine new premises. These were erected by the Corporation at a cost of about 8,000*l.*, and were opened in September 1906 by Sir Walter Vaughan Morgan, Bart., then the Lord Mayor. The building is in three floors and a basement, the latter containing the machinery for the electric plant used for driving and heating purposes. The ground floor is raised "tail-board high," so that heavy weighing-instruments may be unloaded right on to the floor of the testing-room. To the right of this receiving-room is a department where smaller instruments—balances, spring-balances, and steelyards—are examined; while to the left is what is known as the "liquid" department, where publicans' glasses and other measures of capacity are tested. Between these two is a room where a machine driven by a small motor sandblasts the verification-marks on glass measures. On the first floor are the offices of Mr. Street and of the inspector of petroleum and explosives and the testing-rooms for articles in which chemists are particularly interested. One room is specially fitted up for the purpose of testing apothecaries' graduated measures, and adjacent to it is a room fitted with standard weighing-instruments of capacity for testing less than $\frac{1}{100}$ grain to 56 lb. All are, of course, delicately adjusted and carefully kept, and there all the finer weights—apothecaries', troy, and metric—are passed. In the graduated-measure department Mr. Street showed me a useful graduate, with combined markings for apothecaries' measure and metric measure, which, he says, is likely to be done away with should the proposed Board of Trade regulations (see *C. & D.*, September 15, 1906, p. 430) come into force. In this connection Mr. Street spoke strongly on the subject of one of the Board of Trade proposals to the effect that "no stamping-fees are payable on graduations which are not numbered." He gave me his views on this subject as long ago as 1905 (see *C. & D.*, June 24, 1905, p. 968), and he is still as much opposed to this clause as ever. He points out that it has nothing to do with the question of fees, which can be fixed at whatsoever the Board chooses, but there is nothing to prevent makers of measures who have obtained verification for, say, ten markings, putting in afterwards as many unverified subdivisions as they like. This might be awkward not only for the inspector, but also for the chemist and the public. It is the hope of the Weights and Measures Inspectors' Society, of which Mr. Street is an active member, that this clause will be deleted or, at any rate, so amended that it may be quite clear to all concerned. On the top floor of the new premises are packing and store rooms and a mess room for the staff. An electric lift from basement to top floor expedites business in a building where anything from $\frac{1}{100}$th part of a grain of mustard-seed to a 50-ton motor carried can be accurately weighed.

Business Changes.

Properly authenticated business notices (not being advertisements) are inserted in this section free of charge if promptly communicated to the Editor.

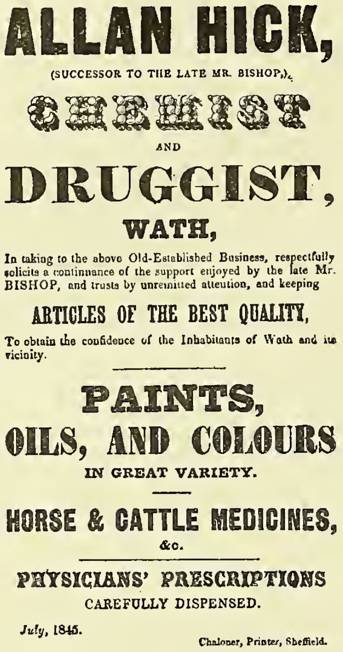
Boots' Cash Chemists have opened a new branch at Trent Bridge, Nottingham.

Mr. Humphrey Davy, chemist and druggist, of Rotherham, has reopened his premises at 19 Bridgegate, which were some time ago burnt out.

Mr. T. H. Gee, chemist and druggist, Leeds, has taken over the business at 168 Chapeltown Road, Leeds, formerly carried on by Mr. F. Fairfax. The valuation for the vendor was conducted by Messrs. Brett & Co., of Leicester, and for the purchaser by Mr. F. W. Smith, of Leeds.

Chemicals in Tunis.—With the two exceptions of ammonia and soda salts, the United Kingdom seems to take no appreciable share in the supply of chemical products to Tunis, which in 1905 were imported to the value of about 24,000*l.* It is possible, the British Consul-General says, that efforts in this direction might be successful.

Two Interesting Documents.



ALLAN HICK,

(SUCCESSOR TO THE LATE MR. BISHOP,)

CHEMIST

AND

DRUGGIST,

WATH,

In taking to the above Old-Established Business, respectfully solicits a continuance of the support enjoyed by the late Mr. BISHOP, and trusts by unremitted attention, and keeping

ARTICLES OF THE BEST QUALITY,

To obtain the confidence of the Inhabitants of Wath and its vicinity.

PAINTS,
OILS, AND COLOURS
IN GREAT VARIETY.

HORSE & CATTLE MEDICINES,
&c.

PHYSICIANS' PRESCRIPTIONS
CAREFULLY DISPENSED.

July, 1845.

Chaloner, Printer, Sheffield.

The above is a reduced facsimile of an octavo handbill, lent to us by Mr. John P. Norwood, Wath, used by his immediate predecessor in business. We also append the wording of a lithographed script quarto sheet issued by the late Thomas Harvey, of Leeds:

> Thomas Harvey, pharmaceutical chemist, 13 Briggate, Leeds, very gratefully acknowledges the kind and constant support he has received since commencing in 1838 and more especially since he succeeded to the business and premises of the late William West; and respectfully informs his friends and the public that he has taken into partnership his friend Richard Reynolds.
>
> T. Harvey may take the liberty of stating that R. Reynolds was some years ago a pupil of his own; and that subsequently, after passing through the complete course of study in the laboratory of the Pharmaceutical Society of Great Britain, and obtaining its diploma by examination (1851), he filled a responsible position in one of the most eminent Metropolitan establishments. T. H. anticipates and hopes that this change, in meeting the increased requirements of the several departments of the business, on the care and efficient superintendence of a principal, will fully maintain the claims of the establishment on the confidence of the medical profession and the public, the continuance of which the new firm, Harvey & Reynolds, respectfully solicit.
>
> 13 Briggate, Leeds, 2nd mo., 1854.

They certainly advertised in a dignified yet effective manner in those far-gone days.

"C. & D. Diary" Competition.

No lack of interest is evinced by subscribers in the advertisement-pages of the *Diary*. In spite of the fact that three postcards were enclosed with the *Diary* for 1907 to be returned, Postcard A competition is as brisk as ever. The five questions we propounded this year were as follow:

1. Which is the best advertisement (irrespective of size)?
2. Which is likely to be the most useful advertisement?
3. Vote for the most persuasive advertisement.
4. Which advertised article (not in a pharmacopœia) do you sell most of?
5. Which advertisement, less than a page, do you like best?

The consensus of opinion as shown by the replies to these questions is valuable not only to retailers but doubly so to advertisers. It is direct and indisputable testimony as to the kind of advertising that pays, and should be invaluable as an indication to retailer and wholesaler alike of what to do when they wish to sell their goods.

Question 1.

There was some close voting in response to the matter of the best advertisement, and Allen & Hanburys (pp. 192-200) headed the poll with a majority of only fifteen over Fletcher, Fletcher & Co. (pp. 23 and 24). Stevenson & Howell (pp. 8 and 9) came in a hot third, followed by S. Maw, Son & Sons (pp. 16-19), Christy Strong (p. 107), Wright, Layman & Umney, Ltd. (p. 41), Purgen (p. 327), Koko (pp. 68 and 69), Standard Tablet Co. (pp. 288 and 289), John Sanger & Sons (pp. 26-29), Alliance Drug and Chemical Co. (p. 357), J. H. Haywood (p. 536), F Schutze & Co. (p. 462), Breidenbach & Co. (pp. 506 and 507), I. & M. Cohen (p. 93), Licoricine (p. 163), Patey & Co. (pp. 500-503), Arthur H. Cox & Co., Ltd. (pp. 332 and 333), etc.

Question 2.

The fact that Allen & Hanburys, Ltd., top the list for the most useful advertisement shows that a series of pages—varied, artistic, and well illustrated—is the kind of thing appreciated in a utilitarian age. One competitor gives as a reason for his preference "because it contains all the prices." Let this be an instruction. The A. & H. pages are unmistakably the favourites, for they have nearly seventy votes more than the Alliance Drug & Chemical Co. (p. 357) who are second. Then come Bernard Slack (p. 135), the *C. & D.* Books (p. 577), Jules Denoual & Co. (pp. 182-187), S. Maw, Son & Sons, British Machine C., Ltd. (p. 15), James Townsend & Sons (p. 127), Daisy, Ltd. (p. 329), Astor Boisselier (p. 39), Wright, Layman & Umney, Ltd. (pp. 12 and 13), Robinson & Sons, Ltd. (pp. 120 and 121), Bruce Green & Co. (p. 146), Potter & Clarke (p. 178), Ferris & Co., Ltd. (p. 364), Elliott Fisher Co. (p. 137), Parke, Davis & Co. (p. 10), John Morgan Richards (p. 331), Rankin & Co. (p. 72), Howards & Sons, Ltd. (p. 275), J. Sanger & Sons, Idris & Co., Ltd. (p. 444), Tunbridge & Wright (p. 109), etc.

Question 3.

Bernard Slack, the "Business Increaser," has caught on with his page of talk, for it (p. 135) was by a large majority voted the most persuasive. A large element of persuasion also exists in the pages of the Standard Tablet & Pill Co., the Alliance Drug & Chemical Co., Wright, Layman & Umney, Ltd., Allen & Hanburys, Ltd., Koko Maricopas, Ltd., Stiles, Ltd. (pp. 446 and 447), the British Machine Co., Ltd., John Morgan Davis & Sons (p. 576), Riley Bros., Ltd. (540), Jones & Co. (p. 460), Stafford Allen & Sons (p. 508), E. Cook & Co., Ltd. (p. 370), "Toila" (p. 149), Wyleys, Ltd. (p. 323), Cuxson, Gerrard & Co., Ltd. (p. 548), and many others.

Question 4.

The universally advertised article that chemists apparently sell most of is Beecham's pills. At least, our competitors say so in no uncertain voice. Then come in order of popularity Daisy powders, Vaseline (p. 580), Wright's coal-tar specialities, Calvert's carbolic tooth-powder (p. 54), Camwal waters (p. vi.), Rankin's ointment (p. 72), Winslow's Syrup (p. 322), Cod-liver oil emulsion (p. 293), Lemco (p. ii.), Iron-Ox Tablets (p. 320), Sanitas preparations (p. 256), Boake, Roberts & Co.'s essences (p. 62), Hall's Wine (p. 367), Allcock's plasters (p. 567), Bronnley's soaps (p. 513), Cook's soaps (p. 370), and cascara tablets (p. 333).

Question 5.

The "maiden on the shore" half-page of F. S. Cleaver & Sons (p. 529), is the advertisement, less than a page, best liked by the majority. Next in order come Lemco, Nelson's loofah socks (p. 576), Astor Boisselier, Scheering's pyro (p. 147), Kaloderma (p. 524), Cuxson, Gerrard & Co., Battle, Son & Maltby (p. 104), Adora Chemical Co. (p. 56), Patey & Co. (pp. 500-502), Evans Sons Lescher & Webb, Ltd. (p. 273), John Bell & Co. (p. 52), L. Piver & Co. (p. 520), and others.

The Prizes.

Only one competitor has guessed all five correctly, and we therefore award 2*l.* to

Mr. J. Ford, 3 Thoresby Street, Nottingham.

To the ten gentlemen named below, who guessed four correctly, we are sending 5*s*. each :

Mr. F. E. Johnson, F.C.S., 9 Prince Street, Hull.
Mr. C. E. Bell, Stapleford, Notts.
Mr. S. H. Platten, 10 Derby Road, Nottingham.
Mr. L. J. Wolverson, c/o Mr. W. M. Wolverson, chemist, Hednesford.
Mr. Robert Kemp, Market Place, Alford, Lincs.
Mr. C. W. Roberts, 368 Stratford Road, Manchester.
Mr. D. Davison, pharmaceutical chemist, Cromer.
Mr. A. Norweb, 26 Fisher Gate, Nottingham.
Mr. A. A. J. Akhurst, chemist, Haswell, co. Durham.
Mr. W. Robinson, 17 George Road, West Bridgford, Nottingham.

Reviews.

A Text-book of Pharmacology and Therapeutics; or the Action of Drugs in Health and Disease. By Arthur R. Cushney, M.A., M.D., Aberdeen. Fourth edition, thoroughly revised. 752 pp. (London : Rebman, Ltd.)

A new edition of this well-known work being rendered necessary on account of the revision of the U.S. Pharmacopœia, Professor Cushny has taken advantage of the opportunity to record such advances in the subjects of pharmacology and therapeutics as have been made in the last two years. Among the changes introduced, the author specially refers to the new views as to the action of chloroform and its dangers, and to the change in the opinions held as to the effects of wood-alcohol in man. In discussing the chloroform question, it is stated that the continually increasing number of accidents in chloroform-anæsthesia has caused a reaction to set in in favour of ether, and it seems probable that the latter may be reinstated as the rival and perhaps the superior of chloroform throughout the world. In the section dealing with alcohol, the author refers to the large number of cases of blindness, or fatal intoxication, following the use of methyl-alcohol, which is characterised as a poison whether used externally or internally. Optic atrophy has repeatedly been induced in animals by the administration of wood-alcohol. It appears, therefore, that the legal prohibition of methylated spirits for fiscal purposes has also a scientific basis as well. The author gives a complete review of the more recent additions to our knowledge of the animal extracts, the active principle of the suprarenal gland in particular being illustrated by diagrams showing its action on the heart. The author has long been recognised as an authority on ergot, and it is interesting to observe his explanation of the test on roosters. The gangrene of the cock's comb "appears to be due to a prolonged contraction of the arterioles shutting off the blood-supply of the parts and leading to a hyaline formation in the lumen and walls of the arterioles, which effectually obstructs the circulation after the muscular coats have relaxed." According to the author, the chemistry of ergot "is still in an unsatisfactory condition." The volume is illustrated with kymographic tracings, which aid in placing pharmacology on a much more scientific basis than formerly, not to say making the study of it intensely interesting. The book is an exceedingly valuable one and contains a vast store of information that will prove most useful to the pharmacist who wishes to keep up his reading.

History of the Wine-trade in England. By André L. Simon, F.R.Hist.S. Vol. I. Pp. 387. 9½ × 6¼. (London, 1906 : Wyman & Sons, Ltd.)

This work shows the rise and progress of the wine-trade in England from the earliest times until the close of the fourteenth century, and has been written in order that wine-merchants should have a concise history of their trade, showing its antiquity and the important part it has played in the history of their country. Wine being one of the most ancient branches of commerce, the book necessarily contains much information respecting the early relations of this country with the Continent, and many details as to the origin of customs and the social and religious life in England. The author has spared no effort to arrive at the truth, and has consulted many trustworthy official records illustrative of the history of England during the early Middle Ages. The introduction of wine and viticulture in England, Mr. Simon says, is coeval with the introduction of the Christian faith, as undoubtedly wine was imported by the priests for the celebration of the Sacrament, and in this way the early Christian Church laid the foundations of the wine-trade in this country. Mr. Simon traces its commercial development step by step, and gives many interesting facts which throw sidelights upon the social condition of the English people. Judging from the present volume the work promises to be intensely interesting, and, although written primarily for the wine-industry, it will appeal to many others.

Women's Health and How to Take Care of It. By Florence Stacpoole. Second edition, revised. Price 1*s*. 6*d*. (Bristol, 1906 : John Wright & Co.)

This is an excellent little volume which many chemists would be none the worse knowing about. Chemists are often asked by their lady-customers to recommend a simple popular treatise, and for that purpose they could not have a better or more reliable book than this.

New Books.

These notes do not necessarily exclude subsequent reviews of the works. Any of these books printed in Great Britain can be supplied, at the published price to readers of this journal on application (with remittance) to the Publisher of "The Chemist and Druggist," 42 Cannon Street, London, E.C.

Claussen, H. *Beet-sugar Manufacture.* Translated by W. T. Hall and G. W. Rolfe. 8vo. 12*s*. 6*d*. net. (Chapman & Hall.)

Die Verwendung von Chemikalien als Heilmittel. Von Dr. Paul D. Cohn. Pp. xxx+96. 9½×6. (Deutsche Verlagsges., Stuttgart.)

Harley, V., and Goodbody, Francis W. *Chemical Investigation of Gastric and Intestinal Diseases. By aid of Test Meals.* 8¾×5½. Pp. 270. 8*s*. 6*d*. net. (E. Arnold.)

Hayes, M. Horace. *Veterinary Notes for Horse-owners.* 7th edition. 8½×5½. Pp. 970. 15*s*. net. (Hurst & B.)

How to Avoid Payment of Debt. 7¼×4¾. Pp. 98. 1*s*. net. (Simpkin, Marshall.) [A new edition of a book by a solicitor which attracted much attention last year. It is intended to show the need for legislation on the subject, and is re-issued in a cheaper form with a view to averting the abolition of imprisonment for debt which has been foreshadowed in Parliament. To take away this, the last weapon of the creditor, would, the author thinks, be disastrous to the trading community.]

Hummel, J. J. *Colouring-matters for Dyeing Textiles.* Illus. New edit. Cr. 8vo. Pp. 160. 2*s*. (Cassell.)

Hummel, J. J. *Mordants, Methods, and Machinery used in Dyeing.* New edit. Cr. 8vo. Pp. 160. 2*s*. (Cassell.)

Marshall, C. F. *Syphilology and Venereal Disease.* 7¾ × 5½. Pp. 52[illegible]. [illegible]0*s*. 6*d*. net. (Baillière.)

Nelham, [illegible] A. *Handbook on the Prevention of Corruption Act*, 1906 Cr. 8vo. 1*s*. net. (Sweet.)

Russell, H. A. H. *The Mount Lyell Mining Manual.* 7×3¼ Pp. 46. With sketch plan. (Wilson, 54 Threadneedle Street, London, E.C.) [A handy little book, which contains in a condensed form the history and position of the Tasmanian mines which form the Mount Lyell Group. Copper, silver, and gold are produced by these mines.]

Rutherford, E. *Radioactive Transformations.* Diagrams. 9 × 5¾. Pp. 298. 16*s*. net. (Constable.)

Stillman, T. B. *Engineering Chemistry: Manual of Quantitative Chemical Analysis.* 3rd edit. 8vo. 19*s*. (Williams & N.)

Swanzy, H. R., and Werner, Louis. *Handbook of the Diseases of the Eye and their Treatment.* 9th edit. 8×5. Pp. 762. 12*s*. 6*d*. (H. K. Lewis.)

Thornton, E. Q. *Kimpton's Pocket Medical Formulary.* 7th edit. 12mo. lthr. 7*s*. 6*d*. net. (H. Kimpton.)

Watson, W. *Text-book of Practical Physics.* 8 × 5¼. Pp. 642. 9*s*. (Longmans.)

Wiley, W. H. *Agricultural Chemical Analysis.* New edit. Vol. 1. 20*s*. (Dawson.)

Wishart, R. S. *Botany.* Ch. edit. Cr. 8vo. Swd. 1*s*. net. (Self-Educator Series.) (Hodder & Stoughton.)

Trade Report.

NOTICE TO BUYERS.—The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers stock the goods. Qualities of drugs and oils vary greatly, and higher prices are commanded by selected qualities even in bulk quantities. It would be unreasonable for retail buyers to expect to get small quantities at anything like the prices here quoted.

42 Cannon Street, London, E.C., January 23.

As this issue closes for press on Wednesday evening, any further alterations will be found in our Coloured Supplement. There is a steady quiet tone about the markets, but up to time of writing changes have been few. Quinine was advanced 1*d.* per oz. by all makers last Friday, but this was not up to market expectations, and the improved feeling which took place after the announcement of the Amsterdam bark-auction was practically lost, the market closing flat. Ferri et quin. cit. is ¼*d.* dearer. Guaiacol carbonate and creosote carbonate have both been reduced 5*d.* and 4*d.* per lb. respectively as the result of fierce competition. Chloral hydrate is firm and in more inquiry. Quicksilver is a shade easier in second-hands. Crude drugs show few alterations. Belladonna-root is more freely offered, but prices have not eased. Copaiba is again firmer, and higher prices are asked for ergot for shipment. Menthol is quiet, and American peppermint oil is flat. Cochin and Japan ginger are firmer. At the London auction of cinchona the unimportant supplies sold at an advance of over 50 per cent. The following are the principal alterations since our last report :

Higher	Firmer	Easier	Lower
Ammonia sulphate	Copaiba	Citric acid	Benzols
Cinchona	Ginger (Jap.)	Cream of tartar	Creosote carb.
Ferri et quin. cit.	Lead nitrate	Quicksilver (seconds)	Guaiacol carb.
Ginger (Cochin)			Pepper
Quinine and salts			
Resin			

Cablegram.

SMYRNA, January 23 :—Hard frosts have prevailed in the interior, and in consequence holders of opium are retiring from the market. Manufacturing-qualities are quoted at from 9*s.* 8*d.* to 11*s.* per lb., and a further advance may be expected.

Heavy Chemicals.

There is not much that is new or of special importance to be reported as regards the condition of the heavy-chemical market. A generally brisk trade continues to be transacted at all the principal centres, and the demand on both home and export account is satisfactory. It must be pointed out, however, that these deliveries are for the most part against already existing contracts, since new business at the moment is not very heavy. The general tendency of prices for the reasons suggested in previous reports—viz., increasing costs of coals and raw materials—is in an upward direction.

ALKALI-PRODUCE.—Prices in this branch are very firm, and main products—as bleaching-powder, caustic soda, soda crystals, saltcake, and ammonia alkali—are all in strong request.

SULPHATE OF AMMONIA.—There is an improvement in this market, since more inquiries are coming in for forward delivery, and there is a greater disposition on the part of buyers to pay the higher prices asked for such business. Present nearest figures: Beckton, 12*l.* 5*s.*; Beckton terms, 11*l.* 15*s.*; London, 11*l.* 17*s.* 6*d.*; Leith, 12*l.* to 12*l.* 2*s.* 6*d.*; and Hull, 11*l.* 17*s.* 6*d.*

BENZOLS are somewhat on the scarce side, and with a fairly good demand ruling prices are steady : 90 per cent. 1*s.* per gal. and 50 per cent. 11½*d.*

MAGNESIUM SALTS are in fair consumptive demand, and prices rule steady without appreciable fluctuation. Sulphate, 60*s.* to 62*s.* 6*d.* per ton; chloride, 65*s.* to 67*s.* 6*d.* per ton; and carbonate, 37*s.* 6*d.* to 40*s.* per cwt.

RECOVERED SULPHUR firm and in good general demand at 5*l.* 5*s.* to 5*l.* 10*s.* per ton free on rails in bags.

ZINC SALTS are in average request and very firm in value. Zinc sulphate crystals, 7*l.* 15*s.* to 8*l.* per ton, and zinc chloride, 100° Tw. solution, 7*l.* 5*s.* to 7*l.* 10*s.* per ton.

GREEN COPPERAS shows little change. Values are firm, and fair business is being done on export account. Best Lancashire makes, 37*s.* 6*d.* to 42*s.* 6*d.* per ton, f.o.b. Liverpool.

Continental Markets.

ACETIC ACID.—A further advance may shortly be expected, says a German report, as a rise in the quotations for acetate of lime from America was announced at the opening of the year. Consumers have, in many cases, not yet covered their needs for the busy season, and would be well advised to do so as early as possible.

COCA-LEAVES.—Good green Truxillo are offered from the Hamburg market at from 5¼*d.* to 5½*d.* per lb. c.i.f.

GLYCERIN.—Prices for the chemically pure in Germany still show a rising tendency, but the advance is only small as compared with the crude. This is of course attributed to the keen competition among refiners, and on this account quotations vary considerably.

GRAINS OF PARADISE are selling at from 41*s.* to 43*s.* per cwt. c.i.f., according to quantity.

QUICKSILVER.—This metal has not been affected by the general advance in prices in Germany, but has, on the contrary, become cheaper, and values of late have sunk rather low, although stocks are not large. This refers especially to the Russian and Italian metal; a good supply of Spanish is sent through London, and realises rather higher prices than the Russian or Italian.

SENEGA is offered from Hamburg at from 2*s.* 0¼*d.* to 2*s.* 0¾*d.* per lb. c.i.f., according to quantity.

Arrivals.

Among the drugs, chemicals, etc., which have arrived at the principal ports of the United Kingdom from January 3 to 9 inclusive are the following: Albumen (@ Antwerp), 11 cs.; aloes, (@ Algoa Bay) 7, (@ Mossel Bay) 27; aniseed (@ Braila), 438; antimony ore, (@ Mollendo) 437, (@ Auckland, N.Z.) 283; arrowroot (@ St. Vincent), 140; arsenic, (@ Oporto) 126, (@ Melbourne) 265, (@ Barcelona) 49; buchu (@ C. Town), 47; benzoin, (@ Singapore) 49, (@ Penang) 20; bleaching-powder (@ Hamburg), 113; bromine (@ Hamburg), 384 cs.; camphor, (@ Foochow) 50 cs. *in tr.*, (@ Shanghai) 16 cs., (@ Hong-Kong) 25; carbide of calcium (@ Christiana), 992 drms.; cardamoms, 83; cascara sagrada, 3,708 pkgs.; castor oil (@ Antwerp), 58; chillies, (@ Kobe) 175, (@ W.C. Africa) 16; cinchona, (@ Boston) 25, (@ Colombo) 194; citric acid (@ Bordeaux), 32; cloves, (@ Trieste) 25, (@ Hamburg) 1,900 bls.; cochineal (@ Las Palmas), 86; cod-liver oil, (@ Rotterdam) 60 cs., (@ Aalesund) 28; drugs, (@ Rotterdam) 13, (@ St. John, N.B.) 4, (@ Fiume) 21, (@ Hamburg) 6; essential oils, (@ Messina) 49, (@ New York) 13; eucalyptus oil (@ Melbourne), 161; galls, (@ Trieste) 27, (@ Hamburg) 20; gentian (@ France), 95; gum Senegal (@ Bordeaux), 16; honey, (@ New York) 1,548 bxs., (@ Jamaica) 9½ cks.; ipecac, (@ Singapore) 25, (@ Colon) 10, (@ Puerto Colombia) 10; jalap (@ Hamburg), 7; kola (@ Jamaica), 7; lactic acid (@ Rotterdam), 25; lemongrass oil (@ Cochin), 25; lime-juice (@ Jamaica), 5pns. 133 pkgs.; lime oil, 26; magnesia, (@ Philadelphia) 34, (@ Hamburg) 21; menthol, 45; myrrh (@ Aden), 22; nux vomica (@ Madras), 186; opium (@ Constantinople), 10; orange oil (@ Jamaica), 14; peppermint oil (@ New York), 22 bxs.; potash chlorate (@ Gothenburg), 26; quinine, (@ Rotterdam) 40 cs., (@ Amsterdam) 30 cs.; rhubarb (@ Shanghai), 20; roots, barks, etc. (@ New York), 188; saccharin (@ Rotterdam), 10; sarsaparilla (@ New York), 15; scammony-root (@ Alexandria), 60; senega (@ St. John, N.B.), 14; senna (@ Tuticorin), 83 and 80 *in tr.*; soy (@ Hong-Kong), 150; sticklac (@ Bangkok), 256; strophanthus (@ Hamburg), 34; sugar of milk (@ Amsterdam), 20; tartaric acid (@ Bari), 25 cs. 52 brls.; tonka beans (@ New York), 10 brls.; turmeric (@ Madras), 30; wax, bees', (@ Hamburg) 29, (@ Madras) 3, (@ Jamaica) 6, (@ Chili) 53; wax, carnauba, (@ Parnahyba) 359, (@ Hamburg) 9, (@ Barcelona) 6; wax, vegetable (@ Kobe), 21; wood-oil (@ Shanghai), 29.

Among the arrivals of drugs, chemicals, etc., at the principal ports of the United Kingdom from January 10 to 22 inclusive are the following: Acetic acid, (@ Fredrikstad) 196, (@ Terneuzen) 64, (@ Rotterdam) 39; aloes (@ Mossel Bay), 54; annatto-seed (@ Copenhagen) 51, (@ Amsterdam) 59;

argol @ Naples 98; arscnic @ Oporto) 75, @ Antwerp) 29; (@ Melbourne) 140 cks.; asafctida (@ Bunder Abbas), 168; bismuth (@ Sydney), 8 cs.; bismuth-ore (@ Sydney), 4; bleaching-powder, (@ Cologne) 3,895 pkgs., (@ Treport) 145; bromine (@ Hamburg), 60; buchu (@ Cape Town), 25; burdock-root (@ Ghent), 5; Calabar beans (@ W.C. Africa), 10; camphor, (@ Bombay) 55 cs., (@ Havre) 255 cs., (@ Hong-Kong) 33 pkgs.; camphor oil (@ Hamburg), 10; cardamoms, 119; chaulmoogra oil (@ Calcutta), 10; chillies (@ Aden), 102; cinchona (@ Mollendo), 47; cloves (@ Rotterdam), 2,050; coca-leaves (@ Colombo), 8; cod-liver oil, (@ Aalesund) 325, (@ Bergen) 20, (@ St. John's) 25 cks; colocynth (@ Marseilles), 18; coriander (@ Casablanca), 600; cus-cus (@ Bombay), 43; essential oils (@ Messina), 144; fenugreek-seed (@ Casablanca), 50; galls (@ China), 400 cs.; honey (@ Sydney), 193; ipecacuanha, (@ Hamburg) 5, (@ Rio) 4; juniper berries (@ Fiume), 76; lavender-flowers (@ Seville), 17; nux vomica (@ Bombay), 62; opium, (@ Marseilles) 52, (@ Calcutta) 29, (@ Bushire) 85; potash chlor. (@ Gothenburg), 28; quinine, (@ Amsterdam) 115 cs, (@ Rotterdam) 90; saccharin (@ Rotterdam), 10; salmiac (@ Rotterdam), 70; sarsaparilla (@ Hamburg), 8; senna, (@ Suez) 140, (@ Tuticorin) 43; tartar (@ Barcelona), 108; tragacanth, (@ Constantinople) 37, (@ P. Gulf) 465; wax, bees', (@ Calcutta) 48, (@ Bombay) 58, (@ Leghorn) 11, (@ Mogador) 12, (@ Chili) 17, (@ Hamburg) 83.

Rival Glucose Companies.

In our issue of October 20, 1906 (p. 624), we reported the formation of a new glucose company in the United States in opposition to the Glucose Trust. Now another rival has sprung into existence through the incorporation in Maryland of the A. E. Staley Manufacturing Co., with an authorised capital of $3,800,000 (760,000*l*.). The company will take over the business of the Staley Manufacturing Co., and will work a large starch and glucose plant. It is understood that control of the Baltimore Hominy Co. will also be acquired.

Ceylon Citronella Oil.

The exports of citronella oil from Ceylon during 1906 amounted to 1,136,994 lb., compared with 1,282,471 lb. in 1905 (a shortage of 145.477 lb.) and 1,133,068 lb. in 1904. This decrease may be taken as one of the principal reasons for the firm market for citronella oil, especially as the demand in soap-making is increasing. On this point a correspondent of the "Ceylon Observer" believes that the market for citronella will further improve in 1907 owing to the shortage in copra and coconut oils in Europe and America. Some time ago there was a scare that citronella oil was being overdone, but this has now passed away. He reports that better quality is going forward of late from Ceylon, and suggests that planters should mark their cases "European plantation oil," so as to distinguish it from the native production, upon which suspicion has fallen of late years.

Cinchona Developments.

The Association of Cinchona Planters recently had a meeting at Bandong, under the presidency of Mr. P. van Leersum. It will be remembered that a couple of years ago a combination of planters was formed with the object of keeping the unit at 6c.; for two years this was carried out with excellent results, but after that period it was found that the limit of 6c. could not be maintained, and thereupon Mr. Maurenbricher started a new combination (see *C. & D.*, December 23. 1905, p. 990), the object of which was to abolish the unit and to restrict the crop. It was then decided that 1,244,000 kilos. less of bark should be exported in 1906, and by the end of November 1,000,000 kilos. less than the previous year had been exported. The consequence has been that the unit has kept well above 4c., as much as 4⅝c. being paid at the November bark-auction. This combination for restricting the output was arranged for one year only. According to arrangement, a general meeting was to be held at the end of 1906, to decide as to its prolongation. At this meeting it was decided to form a new association, called the Preanger Cinchona Association. This has for its object the determination of the attitude to be observed in regard to the market generally, and to discuss the practical interests of cinchona culture in the same spirit as that of the old Bandong Association of fifteen years ago. The committee of this Association has now proposed that the old Association should be dissolved and that the new Union should continue its work on condition that the members of the dissolved Association would be free after January 1 to do as they liked with the one-twelfth part of their crops which they had warehoused. The meeting decided to agree to the suggestion of the Preanger Cinchona Association, and to dissolve and merge into it. At a subsequent meeting the new regulations were approved, and a long discussion took place as to the best means of consolidating the market. Five different projects were discussed, one of them being that during the second quarter of 1907 no cinchona at all should be harvested. The discussions, however, were of a preliminary character, and a further meeting is to be held. It has, however, already been decided that the committee of the Union is to petition the Dutch-Indian Government to agree that at the Bandong auctions of cinchona the same limit shall be put on the Government bark as on that of private planters. This was always done formerly, but at the last auction the Government officials abandoned this practice, and the result was that Government bark was sold below the current value.

Acid, Citric, is rather easier at 1*s*. 6¾*d*. to 1*s*. 7*d*. for English and 1*s*. 6½*d*. for foreign.

Acid, Oxalic.—It is very difficult to procure spot supplies, the market being very bare; 4*d*. per lb. net is quoted.

Aniseed.—The quality of the current Russian crop is poor. Small sales are being made at 24*s*. 6*d*. per cwt. on the spot.

Asafetida.—The s.s. *Tabaristan*, from Bunder Abbas, has arrived with 168 cases.

Balsam Copaiba.—For Maranham of B.P. quality 2*s*. 6*d*. per lb. is now asked.

Belladonna-root is offering rather more freely at from 55*s*. to 60*s*. per cwt., c.i.f., the lower figure, however, representing very common quality.

Benzoin.—A few sales of good Palembang have been made in tins at 45*s*. to 47*s*. 6*d*. per cwt.

Benzols are slightly easier at 11½*d*. to 1*s*. per gal. in bulk for 50 per cent. for prompt delivery, and 90 per cent., 1*s*. 0½*d*.

Bromides.—The sales of the German bromide convention in November and December were greatly in excess of the corresponding months of 1905, and the complete turnover for the year represents a considerable increase over the previous twelve months. The total sales amounted to 906,991 kilos. in 1906, as compared with 717,432 kilos. in 1905, or an increase of almost 21 per cent. No less than 13.5 per cent. of the total quantity was exported to the U.S.A. for the purpose of commercial warfare with the American bromide-producers, this percentage being contrasted with 19.5 per cent. of the total sales devoted to a similar object in 1905. A new member of the bromide convention is the Gewerkschaft Friedrich Franz, which joined at the beginning of the year.

Buchu.—Further sales of good green round leaf have been made at 1*s*. per lb.

Canary-seed is still slow of sale. Turkish is offering at 35*s*. 6*d*. per quarter on the spot, and at 35*s*. c.i.f. terms.

Caraway-seed is firm, with a good business done at 32*s*. to 32*s*. 6*d*. per cwt. for good Dutch on the spot.

Cascara Sagrada is steady at from 42*s*. 6*d*. to 45*s*. per cwt., a sale being reported at the higher figure.

Chloral Hydrate.—There is rather more inquiry at the convention-price of 3*s*. 8*d*. per lb., duty paid. The tone is firm and any alteration would be upwards.

Cinchona.—At auction on Tuesday the small supply of 609 packages was offered, and with good competition the bulk sold at an advance of about 50 per cent., the unit being 1⅜*d*., against ⅞*d*. paid in December last; this compares with a parity of 1¼*d*. paid at the Amsterdam sale last week.

The following table shows the quantity of bark offered and sold:

	Packages Offered		Packages Sold
Ceylon cinchona...	268	of which	170
Java cinchona	171	,,	171
East Indian cinchona	170	,,	50
	609		391

The following table shows the approximate quantities of bark purchased by the principal buyers:

	Lb.
The Imperial Quinine Factory...	31,225
Mess's. Howards & Sons, Limited	21,955
The Mannheim Factory	12,790
The Frankfort and Stuttgart Factories ...	1,450
Total quantity sold	67,420
Bought in or withdrawn	50,170
Total quantity offered	117,590

The prices paid were as follows: East Indian.—Officinalis original stem chips and branch at 4⅜*d.* to 5¼*d.*, renewed ditto 4⅝*d.*, and root 5⅜*d.* per lb. Ceylon.—Ledgeriana, original stem chips, 5⅛*d.*, root 6⅛*d.* to 6⅜*d.* Hybrid stem chips and branch 4⅜*d.* to 6⅜*d.*, and root 4*d.* to 6*d.* Succirubra branch and twig 1¾*d.*, and root 2½*d.* per lb. Java.—Ledgeriana stem chips 3⅞*d.* to 5*d.*, good 8⅞*d.* to 11⅜*d.*, root 6⅛*d.* Hybrid branch 5*d.* to 6⅜*d.*, and root 5⅛*d.* to 6*d.*

At Amsterdam on Saturday, January 19, 4,605 packages Java bark in first hands averaging about 3.5 per cent. quinine, and containing about 15,000 kilos. quinine sulphate, were sold at full prices.

Cloves have been quiet and easier, with spot sales of Zanzibar at 7¼*d.*, and for delivery about 1,000 bales changed hands on Wednesday at 6$\frac{15}{16}$*d.* to 6$\frac{31}{32}$*d.* for January-March, and 7*d.* to 7$\frac{1}{32}$*d.* for March-May. Subsequently 6$\frac{15}{16}$*d.* was paid for January-March and 7*d.* for March-May. In auction good Penang in cases were bought in at 1*s.* 3*d.* Privately the delivery market closes firmer at 7*d.* for January-March.

Coriander-seed is offering at 14*s.* per cwt. on the spot for Morocco, but only retail sales are reported.

Cream of Tartar is rather easier at 82*s.* 6*d.* to 83*s.* for 98 per cent. and 81*s.* for 95 per cent.

Creosote Carbonate has been reduced 4*d.* per lb., to 2*s.* 6*d.* net.

Cumin-seed.—A little Morocco has been sold at 45*s.* to 55*s.* per cwt. for common to good.

Ergot is tending firmer, Russian being quoted 1*s.* 0¾*d.*, c.i.f., to arrive, and on the spot 1*s.* 2*d.* is wanted. Small sales of Spanish have been made on the spot at 1*s.* 3*d.* to 1*s.* 4*d.* for wormy, sound being worth 1*s.* 6*d.* to 1*s.* 9*d.*, while to arrive 1*s.* 4½*d.*, c.i.f., is quoted.

Fenugreek is unchanged at 10*s.* 6*d.* to 11*s.* 6*d.* per cwt. for Morocco.

Ferri et Quin. Cit.—The makers have advanced the price ¼*d.* per oz., to 5*d.* in bulk or 25-oz. tins and 6*d.* in 1-oz. vials. Bulk lots of not less than 100 oz. are subject to a reduction of ½*d.*

Gambier.—Market is bare of cubes, sellers to arrive asking 28*s.* landed terms, January-February shipment.

Ginger.—Cochin washed has been in fair demand, about 300 bags having been sold on the spot at 33*s.* for good bright and 28*s.* 6*d.* for wormy. Sales of Japan have been made at 23*s.* 6*d.* to 24*s.*

Guaiacol Carbonate has been reduced 5*d.* per lb., to 4*s.* 3*d.* per lb. net.

Iodides.—A Yokohama report under date of December states that iodides are firm, but no business is reported on account of high prices. The current quotation for potassium iodide is 3.80 yen, iodoform 6.20 yen, re-sublimed iodine 5.20 yen, and crude 4.00 yen per lb.

Lead Nitrate is tending firmer at from 34*l.* 10*s.* to 35*l.* per ton.

Linseed is steady at 48*s.* to 50*s.* per quarter for good quality.

Menthol.—Quiet. Small spot sales of Kobayashi have been made at 8*s.* 6*d.* on the part of a weak holder. A little could probably be had at 8*s.* 7½*d.*, but 8*s.* 9*d.* is a more general quotation. Nothing has been done "to arrive."

Oil, Aniseed, Star, is quiet, with sellers at from 5*s.* 6*d.* to 5*s.* 7*d.* spot.

Oil, Bergamot.—For the finest quality 12*s.* 6*d.* per lb. is wanted.

Oil, Cassia, is steady at from 4*s.* 3*d.* to 4*s.* 10*d.* per lb. spot, and for arrival small sales have been made at 4*s.* 2½*d.* to 4*s.* 3*d.*, c.i.f.

Oil, Citronella.—Ceylon is firm at from 1*s.* 10*d.* to 1*s.* 11*d.* per lb.

Oil, Lemon, is firm at 4*s.* 2*d.* per lb., c.i.f. terms.

Oil, Peppermint, is still very quiet. Wayne County in tins is quoted 9*s.* 9*d.* to 10*s.*, according to brand, and for H.G.H. 13*s.* 9*d.* spot is the price.

Oil, Turpentine, closes dearer at 51*s.* 9*d.* to 52*s.* for American on the spot.

Oil, Wood.—The sales include 10 tons of Hankow for December shipment at 31*s.* 6*d.*, c.i.f., delivered weights.

Opium.—Under date of January 12 our Smyrna correspondent writes that there are no sales to report owing to the Greek holidays. If business does not improve, holders will be forced by their financial needs to grant any concessions. No arrivals have taken place during the week, as the railways have been flooded.

Pepper.—Privately the market for Singapore pepper has been weak, business having been done for January-March at 4⅝*d.* per lb. c.i.f. d/w. On the spot sellers ask 5⅛*d.* per lb. *White* pepper is quoted on the spot at 6$\frac{5}{16}$*d.* for fair, and for March-May shipment the business includes 25 tons at 6$\frac{5}{16}$*d.* c.i.f., at which price there are further sellers. In auction greyish Singapore was bought in at 5⅛*d.*; 46 bags fair white Siam sold at 6⅜*d.*

Pimento is steady, with small sales of fair at 2¾*d.* per lb. In auction, sales of fair were also made at 2¾*d.*

Potash Prussiate is firm at from 6½*d.* to 6¾*d.* for foreign yellow.

Quicksilver is in fair demand with second-hand sellers at 6*d.* below our last quotation, the prices now being from 6*l.* 16*s.* to 7*l.* per bottle.

Quinine.—As a result of the 30-per-cent. advance in the bark unit at Amsterdam last week the German makers advanced the price of sulphate in bulk to 11*d.* per oz. Messrs. Howards also advanced their quotation 1*d.* to 1*s.* in bulk and 1*s.* 2*d.* in 1-oz. vials of not less than 1,000-oz. lots. Other salts of quinine have also been advanced. Immediately after the result of the Amsterdam auction was made known last week there was a rapid rise in second-hands, spot selling at 10*d.* to 10⅛*d.*, March at 10½*d.*, and May 10⅜*d.*, but the penny advance on the part of makers on Friday was disappointing to second-hand holders, who quite expected the price to be 1*s.* at least. Consequently a reaction took place, spot selling at 10*d.* and March at 10¼*d.* to 10⅛*d.*, the week closing at 9¾*d.* spot value. This week, however, there has been a slight recovery from the lowest point, a fair business being done at from 9¾*d.* to 9⅞*d.*, and March at 10*d.* per oz. Market closes quiet at 10*d.* spot, sellers.

The exports of quinine, quinine salts, and combinations from Germany during the nine months ending November 1906 amounted to 115,300 kilos.

Rhatany.—From Hamburg, sticks are offered at 29*s.* to 30*s.*, c.i.f., and chumps at 15*s.* to 16*s.*

Scopolia-root.—Japanese of good test is quoted 30*s.* per cwt., c.i.f. terms.

Shellac.—The spot market is firm, with a limited demand, middling to good TN being quoted at from 210*s.* to 213*s.* per cwt.; fine orange marks are scarce, quotations being nominal. A.C. Garnet is 195*s.* spot, and GAL 192*s.* 6*d.* spot. Futures are firm, but owing to few sellers little business has been done; 100 cases May sold at 210*s.* 6*d.*

Sulphur.—Quiet but firm at 6*l.* 5*s.* to 6*l.* 7*s.* 6*d.* per ton for flowers and 6*l.* 2*s.* 6*d.* for roll on the spot.

Trade-marks Applied For.

(*From the "Trade-marks Journal," January* 16, 1907.)

"**Turco**"; for certain chemicals in Class 1, for candles, soaps, etc., and for polishes. By the Union Rubber & Chemical Co., Ltd., Shaw Street, Manchester. 287,713, 287,717, 287,718.

"**Orthochrome**"; for photographic-plates. By Imperial Dry-plate Co., Ltd., Cricklewood, London, N.W. 288,475.

"**Glazeet**"; for photographic chemicals. By C. T. Thonger, 14 Cape Hill, Birmingham. 288,534.

"**Tapænine**" and "**Whezone**"; for veterinary medicines. By W. J. Palmer, 92 Norfolk Street, King's Lynn. 288,218, 288,424.

"**Thallasol**"; for antiseptics and disinfectants. By Vallat & Co., 97 Hatton Garden, E.C. 288,480.

"**Nizin**"; for chemicals in Class 3. By Burroughs Wellcome & Co., Snow Hill, London, E.C. 287,163.

"**János**"; for medicinal salts and for mineral-waters. By A. Saxlehner, 3 Andrassystrasse, Budapest. 287,425, 287,426.

"**Dekko**"; for pills. By E. C. Feinstein, 140 Houndsditch, London, E.C. 287,611.

"**Vocalyptus**"; for medicines. By L. J. O'B. Bray, 63 Longridge Road, Earl's Court, London, S.W. 288,327.

Correspondence

TO CORRESPONDENTS.—Please write clearly and concisely on one side of the paper only. All communications should be accompanied by the names and addresses of the writers. Publication of letters does not imply our agreement with the arguments or approval of the statements therein. If queries are submitted, each should be written on a separate piece of paper. We do not reply to queries by post, and can only answer on subjects presumably of interest to our readers generally. Letters received after the early posts on Wednesday cannot as a rule be dealt with in the current week's issue.

BUSINESS INFORMATION.—We have very full records of the makers or agents for articles and products connected with the chemical and drug trades, and supply information respecting them by post to inquirers. Inquiries regarding any articles which cannot be traced in this manner are inserted under "Information Wanted."

Not Grudged.

H. M. R. (114/25), in sending another year's subscripton on January 21, says: "It is about the only subscription I don't pay with a grudge. Your *Diary* this year is beyond my expectations. The Medical Dictionary is a perfect boon, and a thing I have long desired to possess; but, like the proverbial Scotsman, I am very loth to 'pairt wi' siller,' and buying expensive medical books was out of my province. Having received it in a gift I am delighted."

Another Profitable Instance.

J. Y. (16/64), writing on January 22, says: "I think it right to inform you that *I have saved more than my year's subscription to the C. & D.* by ordering a quantity of bottles after reading of the proposed advance in price in the last week's *C. & D.* Continue to keep us well posted up in news for the benefit of the trade."

Federation of Local Pharmaceutical Associations.

The following letter has been issued to constituent Associations:

100 Fore Street, Exeter: January 21, 1907.

Preliminary Notice.

Dear Sir,—I beg to inform you that a special meeting of the Federation will be held in London during the week beginning May 6. As this is the week of the Chemists' Exhibition, it is hoped that there will be a large attendance from the country. The Executive Committee hopes to arrange for discussions on subjects of practical commercial importance, and if your Association desires to submit any question to the meeting, I shall be glad if you will let me know at the very earliest possible date. If you can also favour me, as soon as possible, with the names of the delegates whom you will be sending to this meeting I shall be obliged. Please note that the "Suggested Amended Constitution" will not be considered at this meeting, as any alteration of the rules can only be made at an annual meeting.

Full particulars will be sent to you in due course.

I remain, yours faithfully,
H. Wippell Gadd,
Hon. Secretary and Treasurer.

Green Elder Ointment:
How I Made it, and Kept it and Other Unguents Unchanged in Colour for Months.

Sir,—Since Professor Tyndall proved that the influence of microbes is produced only when the vehicle is exposed to atmospheric or dust agents, I often pondered how this might be turned to account behind the counter, but could not see a ready and clean method. Then, after twenty years, I became a Canadian backwood farmer, and there the mother wit of a neighbour, to whose children I had been of use in my older calling, taught me. After a day's hard work in a "thrashing bee" the call to supper was sounded. We went in, and, to the surprise of all of us, there was roast leg and shoulder of mutton, as well as pie and whisky, which the cute boss would not produce until work was done. On being joked with about fresh meat at the end of a very hot day in August, the wife said, "It is very simple. Will (her husband) brought it home in April. I cooked it at once, put it into a large jar, turned that upside down in my bread-pan, and Will buried it two feet deep in the garden. There it has been until to-day. Do you like it?" A chorus rose at once. "Oh! don't we?" When I came back to England I remembered the mutton. All changeable ointments were at once placed upside down in another jar, and so remained. Even ol. palmæ kept its bright pink colour. I found, too, that inf. rhei and inf. sennæ would keep a very long time if placed in a flask and a pinch or two of cotton-wool thrown loosely over it. What is the reason? Dust will fall, but does not rise if currents of air are excluded.

G. E. B. (17/10.)

"We Must Chance it."

Sir,—To what extent this formula obtains in the complex machine of up-to-date civilisation is happily unknown to the general public, although each minute subdivision of that public is using it every day. On the railway, the steam boat, in electric installations we find this tacit recognition of human fallibility—occasionally with disastrous results. Coming from the "general" to "our own particular," I found that your recent articles on the Great Unqualified "gave one furiously to think." The decline in the importance of our once highly-valued and even essential "qualification" is alarming to those who have spent many hard-earned pounds and commensurate gallons of midnight oil in quest of it. It must, of course, be perfectly well known to everyone in the charmed circle of pharmacy that unqualified managers and assistants are constantly supplying scheduled poisons all over the country, in numerous instances—especially in the case of "managers"—with the faintest possible adumbration of "covering" by a principal or qualified relief-hand. Looked at in a homely practical light, what possible risk does the unqualified man run by supplying Mrs. So-and-so at the china-shop next door, whom he knows pleasantly and well, with "a pennyworth of white precipitate for the children's hair," or in handing over a bottle of Winslow's Soothing Syrup to a cheery farmer's wife from a neighbouring village? It would be easy to multiply instances of this kind. In the case of company branches in large communities early information is passed round by inspectors and otherwise, the watchword being "the Society is on the warpath!" At once all unqualified assistants are instructed to refuse the sale of scheduled poisons until the storm has blown over; then things go on as before. These feeble and sporadic attempts of the Pharmaceutical Society to enforce the law naturally bring that august body into contempt both with trade and public; and thus in 1907 we have the strange spectacle of an unqualified chemists' association in our midst and of unqualified chemists keeping open shop! Incidentally I am happy to know that prosecutions which are the outcome of private malice (supplanted rivals and so forth) are extremely rare; and, speaking generally, what decent qualified man would inform on a capable and hard-working *confrère*—quite probably a man with wife and children—even if he did not bear the now comparatively unimportant cachet of the pharmaceutical examination? No; it is for the Society itself to move strenuously in the matter, and to bell a variety of artful "cats." Nothing but a well-organised, well-sustained system of shop-to-shop inspection will alter matters and ensure that the law is enforced. To sum up the whole matter, it is a question of funds. In this connection Excise regulations and restrictions are well and keenly looked after; but there's money in that, revenue! I suppose that the Society would say (in effect): "Pay us *our* fees for your marriage-lines, and we'll see you righted!"

Yours faithfully,
Ignotus. (14/9.)

Medicated Sweets.

Sir,—Pharmacy is threatened by an invasion from a new quarter. The sweet-shops are dealing in chlorodyne lozenges and variously medicated troches and pastilles. Perhaps no serious objection can be taken to the majority of such wares, but when the price and quality are very low is it not apt to create dissatisfaction with the higher-priced articles of the pharmacist? The nausea which some at least of these cheap things create also tends to lessen their sale generally, for having tried the confectioners' quality a man may not venture to buy the genuine. Some confectioners' peppermints, for example, are very strong, biting, and persistent, and it is said they are made from dementholised oil. Crystallised ginger is another thing our new opponents are selling, but methinks they get it accidentally, or otherwise, admixed with a fair modicum of capsicum, for no two pieces seem to be alike, one out of the same packet being as mild as the other is strong. Pontefract cakes, which once held an honourable place in pharmacy under the quondam name "pomfrey" cakes, have, it is feared, fallen from their high pedestal because of the very trashy substitute sold by small shopkeepers. Digestive candy is another which is less in evidence now, perhaps, from a similar cause. ABEL SCHOLAR.

Miscellaneous Inquiries.

We endeavour to reply promptly and practically to trade questions of general interest, but cannot guarantee insertion of replies on a particular date, nor can we repeat information given during the past twelve months.

W. E. G. (9/1).—SHADDOCK.—There is some confusion as to what plant is intended by the term "shaddock," as used in the West Indies. The shaddock is a member of the *Citrus* family, and was introduced into the West Indies from China by Captain Shaddock in the eighteenth century. Dr. Jas. Macfadyen, in his "Flora of Jamaica," distinguishes two varieties of shaddock—*Citrus maliformis*, the fruit of which is globose with pale pink pulp, and *Citrus pyriformis*, with pear-shaped fruit and crimson pulp. The latter is most esteemed. Since Dr. Macfadyen's time attempts have been made to untangle the confused state of the botany of the shaddock, or pumelow, as the giant citrus is called in India. The increased interest in this fruit is because of its popularisation, in the United States particularly. The fruit is sold in this country, but is hardly popular, because of the want of knowledge as to how it should be eaten. The pith surrounding the segments has a bitter taste, and unless carefully removed destroys all enjoyment in eating the pulp. The shaddock is now recognised as *Citrus decumana.* and is the largest fruit of its kind, but inferior to the smaller species, *Citrus Paradisi*, which is known as grape-fruit—the *C. pyriformis* referred to by Macfadyen. *C. maliformis* is named in popular language "forbidden fruit," but to add to the confusion we find that the names are often reversed in the United States. It is probable, however, that only the grape-fruit, the most pleasantly flavoured kind, appears in commerce. As to the medicinal properties, we have found many panegyrics, but the praise would equally apply to the orange. The bitter flavour is held to endow the fruit with tonic properties "of great value in dyspepsia and allied ailments," but as vegetable bitters are so plentifully distributed in nature, it is not probable that the grape-fruit bitter has any material advantage.

P. W. (8/9).—There are eight formulæ for syr. hypophosph. co. in "Pharmaceutical Formulas," but none of them are made from iron wire.

BARRACK-SERGEANT'S DROPS.—In reference to the inquiry for a recipe for this the formula given in "Pharmaceutical Formulas" is as follows:

Ol. juniperi ... ... ℥iss.
Ol. terebinthinæ ... ... ℥iss.
Tr. opii ... ... ʒij.
Spt. rectificat. ... ... ℥iij.

M. Dose: Ten to twenty drops on sugar.

Some of the replies which we have received give the same recipe, but the following is a variation:

Ol. juniperi,
Ol. terebinthinæ,
Sp. æther. nit.,
Sp. ammon. arom. ... ... aa. ℥iss.
Tr. opii ... ... ʒvj.

Another correspondent ("C. H. C.," 12/57) states that when he was apprenticed in Northamptonshire he was taught to supply tinct. guaiaci ammon. for Barrack-sergeant's Drops.

G. F. K. (1/28).—The herb which you send as being used by Jews in the East-end of London for an infusion to wash infants is German chamomile (*Matricaria Chamomilla*). It is stated to allay skin-irritation.

E. M. (2/66).—We have not been able to discover a book which gives a list of sheep farmers or breeders. If any subscriber who sees this knows of such a book, we shall be glad of the information.

Pectoralis (245/6).—COUGH-MIXTURE to suit your label:

Acid. acetic. ... ... ℥j.
Vin. ipecacuanhæ ... ... ℥j.
Inf. senegæ conc. ... ... ℥ss.
Syr. rhœados ... ... ℥v.
Liq. morph. acet. ... ... ℥iss
Oxymel scillæ ad ... ... Oj.

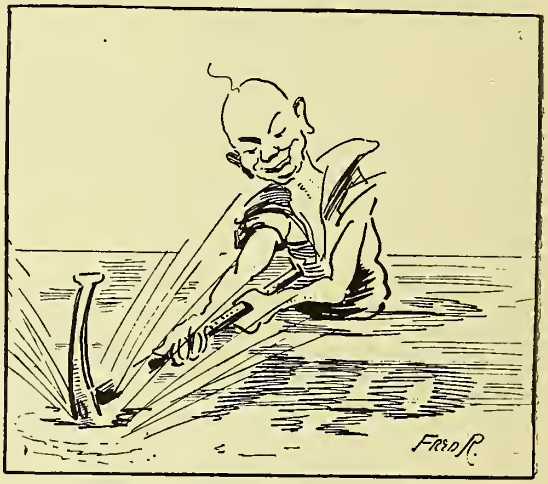
Misce.

Adult dose: One teaspoonful; not to be given to children younger than twelve years.

W. & W. (51/40).—THEATRICAL STAIN.—Some of the stains used for giving a sunburnt appearance to the face have the disadvantage of being difficult to remove, but if an insoluble mineral colour is used, such as burnt umber or sienna that difficulty does not occur. The powder is finely powdered, and for use mixed with a little water.

Fusee (245/42).—Your description of pipe-lighting by means of "a small piece of the chemical is broken off, placed on the tobacco, and then wetted with the finger" seems to refer to sodium or potassium. We have never seen it sold in the streets of London, and as you will see there is some risk in the transportation of these metalloids, it is unlikely that such sale takes place. The flavour of the tobacco would be hopelessly ruined. We suspect the "fact" has originated in one of the journals of the snippity type.

Another Conundrum.



What Drug does this Represent?

ANSWERS in rhyme on postcards should be sent to the Editor before the end of the month. For those he may print he will pay, provided they are correct.

We find that one subscriber answered the "ricin. ol" correctly—viz., Mr. Milton Hersant, Archway Road, London, N.

FROM THE SMOKING-ROOM.

A LITTLE while ago a certain young bottle-washer, whom I will describe as "Mactavish," so much impressed his relations with his omniscience that they were persuaded to purchase for him a drug-store business in a certain town and instal him therein as manager. For some time he progressed favourably—handing over pennorths o' pills and tins of paint with great pride and nonchalance. But his mind aspired to higher things than paint, and at last his opportunity arrived. A woman came in the shop, infant in arms, and related how "every drop o' milk 'at babby took curdled on its stomach." Could Mr. Mactavish give her something to cure it? Mac's face shone, and he at once proceeded to do the needful. He had heard somewhere that essence of rennet was something to do with the curdling of milk; so, measuring 1 oz. into a bottle, he filled with water and labelled "One teaspoonful three times a day." It is not on record whether the baby became a cheese-factory or whether it became a passenger to the cemetery, but the embryo pharmacist shone on, until one fine day the brokers came.

* * *

The late manager of a drug-store branch was not strong on the "classics." He one day received a call for a preparation which required the use of "aquæ bullentis Oj." He searched the B.P. and other books of reference, but was unable to find it mentioned. In his difficulty he sent round to his nearest neighbour (which happened to be myself) with a request for the mysterious ingredient. He was informed that it would be ready in fifteen minutes. On receiving it he remarked how warm it was, but was told with solemn face that it had only just been made. The price charged was—well, he paid for his want of knowledge, and went away satisfied. What more could he want?

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Later News.

42 CANNON STREET, E.C.
JANUARY 24.

OWING to the necessity for sending the literary portion of this Winter Issue to press earlier than is usual, we print here the more important of matters which have come to hand since last night.

Miscellaneous Items.

Councillor Jas. Avison, Dukinfield, chemist and druggist, has been appointed a county J.P. for Cheshire.

Messrs. Hurst & Blackett will publish next month Mrs. Fred Reynolds's new novel, "A House of Rest."

Mr. C. F. Henry, President of the Edinburgh Chemists' Trade Association, informs us that he believes the idea of the formation of the Association originated with Mr. Peter Boa.

A private meeting of the creditors of Messrs. Bennett, Sons, & Shears, Ltd., Kingsland Road, London, N.E., was held on January 24, at which liabilities amounting to 55,963*l.* 18*s.* 7*d.* were submitted, and assets estimated to produce 50,068*l.* A committee was appointed to consider what further steps should be taken.

Under the Shop Hours Act, Swansea chemists and druggists will by order close at 8 P.M. on Monday, Tuesday, and Wednesday; 2 P.M. on Thursday; 9 P.M. on Friday; and 11 P.M. on Saturday. The closing-hour on the day before Good Friday, during the two weeks before Whit Monday, and on any day during the month of December is 11 P.M. This does not apply to the sale of medicines and surgical appliances.

Alderman William Merry, J.P., chemist and druggist, Ilkeston, of which he was Mayor in 1892-3, for many years Chairman of the Corporation Finance Committee, an Overseer of the Poor, and a Past-Master of the Rutland Lodge of Freemasons, who died on December 30 last, aged seventy-two years, eldest son of the late Mr. Thomas Merry, grocer and chemist of Ilkeston, left estate of the gross value of 8,273*l.* 5*s.* 2*d.*, of which the net personalty has been sworn at 2,075*l.* 14*s.* 10*d.*

Thomas Merry & Co., Ltd.—This company has been registered with a capital of 10,000*l.*, in 1*l.* shares (4,000 5-per-cent. cumulative preference). Objects: To take over the business of a drysalter, druggist, oil merchant, importer, boiler and refiner, varnish, colour, and composition manufacturer and general merchant carried on by T. Merry, sen., at 75 and 76 Suffolk Street, 155 to 160 Alcester Street, and 6 and 7 The Vaults, The Crescent, Cambridge Street, all in Birmingham, as "Thomas Merry & Co." The first directors are T. Merry, sen. (chairman), T. Merry, jun., and F. Merry. Registered office, 76 Suffolk Street, Birmingham.

French Company Tax.

Our Paris correspondent, writing on January 23, states that he learns that the proposal of the French Government to put a ¼ per cent. on the capital of foreign companies trading in France has been dropped. This is the matter which the London Chamber of Commerce actively opposed.

The Jamaica Disaster.

Mr. and Mrs. Henry A. Potter (Potter & Clarke, Artillery Lane, E.), who have been touring in the West Indies, returned to England last week. They left Kingston a few days before the earthquake disturbances.

In the article in this issue on the disaster we mention that the "Tribune" is organising relief in the form of supplies; anything contributed to be carried free from Waterloo to Kingston by the railway and steamship companies. Up to this morning the following connected with the drug and chemical trades have contributed consignments: Allen & Hanburys, Ltd.; Messrs. Boots, Ltd., Nottingham; George Borwick & Sons; Bovril, Ltd.; Brand & Co., Ltd.; Burgoyne, Burbidges & Co.; Condy & Mitchell; Cerebos, Ltd.; I. & M. Cohen; Crosse & Blackwell, Ltd.; James Epps & Co.; Idris & Co., Ltd.; Frame Food Co.; Hall's Wine Co.; Kops Ale Co.; J. F. Macfarlan & Co.; Newball & Mason, Nottingham; Plasmon International, Ltd.; Ridge's Food Co.; Sanitas Co., Ltd.; H. Schweitzer & Co.; Spratt's Patent, Ltd.; The Wincarnis Wine Co.

Business Changes.

The business of Lowe & Wylde at 53 King's Road, Chelsea, S.W., has been closed.

Hatton's Drug-stores are about to be opened at 13 Grand Parade, Lea Bridge Road, Leyton, E.

Mr. E. Barnes, chemist, has reopened the premises at 39 Church Street, Edgware Road, N.W.

The Whips Cross Drug-stores have been opened at 93 Chestnut Walk, Lea Bridge Road, Walthamstow, E.

Messrs. Dinneford & Co., chemists, announce their intention of shortly vacating the premises at 180 New Bond Street, W.

Mr. A. Wyatt has purchased the business of the Imperial Drug-stores, 23 Putney Market, High Street, Putney, S.W.

Mr. G. H. Meadley, pharmaceutical and analytical chemist, has recently opened a business at 9 and 11 Gladstone Road, Scarborough.

Mr. S. M. Lennox, chemist and druggist, has purchased the business of Mr. James Roberts (late Peacock & Co.), 82 Stokes Croft, Bristol.

Mr. G. Brown has taken over the business carried on for some years by Mr. L. L. Thomas, chemist and druggist, at 106 Victoria Road, Fenton.

Messrs. Lane & Foot, dispensing chemists, have transferred their business from 82 Seven Sisters Road, Finsbury Park, N., to No. 6 in the same thoroughfare.

Failures.

The accounts of Percy Proctor Judge, chemist and druggist, Folkingham, against whom a receiving order was made on January 1, show liabilities 485*l.* 12*s.* 7*d.*, of which 435*l.* 0*s.* 5*d.* is due to unsecured creditors, and the assets consist of stock-in-trade, 25*l.*; trade fixtures, fittings, etc., 20*l.*; furniture, 50*l.*; life policies, 20*l.*; book debts, good, 91*l.* 6*s.* 7*d.*, making a total of 206*l.* 6*s.* 7*d.*; and deducting claims for distrainable rent and preferential rates, taxes, wages, etc., 50*l.* 12*s.* 2*d.*, the net assets amount to 155*l.* 14*s.* 5*d.*, and leave a deficiency of 279*l.* 5*s.* 11*d.*

The public examination was resumed at the Edmonton County Court on Monday of Mr. Thomas Ward, managing director of Henry Bishop & Co., Ltd., in liquidation; a company which traded as wholesale and retail druggists. The questions of the Official Receiver were directed to the financial arrangements, reports of which have previously appeared in the *C. & D.* Witness declared that up to 1903 the company was perfectly solvent. He was unfortunate, be said, in his choice of directors in 1904; but when the debentures were issued the business was going on in a small way. He denied that he misrepresented the state of affairs to Mr. Morris, Mr. Marriott, or others. The Official Receiver informed the Judge that the witness's answers were at variance with the information he had received, and he therefore asked for another adjournment to have a private examination of the persons mentioned. The Judge accordingly adjourned the examination until May.

The public examination of John William Thomas Winwood, of 143 Westminster Road, Handsworth, lately carrying on business at 192 Windmill Lane, Smethwick, under the style of "Winwood Drug-stores," took place on Wednesday at Birmingham County Court, before Mr. Registrar Whitlock. The liabilities were 238*l.* and the assets 104*l.*, a deficiency of 133*l.* The debtor deposed that he is not a registered chemist, and admitted that he had borrowed 20*l.* at 50 per cent. interest. He started a branch at Handsworth in December 1903, and sold it in April 1906 for 60*l.*, getting bills for it, which he gave to a wholesale house that was pressing him. In November last he sold the Windmill Lane business for 100*l.* He never made sufficient to pay his expenses. The recipe of a patent pill and a corn-cure of his own invention he estimated to be worth 20*l.*, but he should not be surprised if Messrs. Southall said they were not worth one penny. In answer to Mr. Jaques, his solicitor, bankrupt said he was selling a fair quantity of his patent pills and corn-cure, and the profit was very good; so that, said Mr. Jaques, the public did not agree with Messrs. Southall's opinion. The examination was concluded.

Association Meetings.

The Association of Women Pharmacists met in Mrs. Clarke-Keer's residence, 5 Endsleigh Street, W.C., on Wednesday evening, January 23. Miss Buchanan presided, and short papers were read by Misses Neve, Robinson, Dale, Barltrop, and Bedell, the subject being "Hints on Hospital Dispensing." These were listened to with much interest, and a long and interesting discussion followed.

The members of the Bradford Chemists' Association and their friends met on Tuesday night at the Royal Hotel, Bradford, when Dr. Vaughan Bateson gave a lantern-lecture on "Where Three Empires Meet." Dr. Bateson spent some years in the Indian Medical Service, and he led his audience, in imagination, rapidly from Bombay to Darjeeling, then into the wilds of the Himalayas to a point where the boundaries of Thibet, Bhootan, and Nepal meet. It was a most interesting lecture, and, in the matter of picturesque slides, unique.

The Trade Section of the Sheffield Pharmaceutical and Chemical Society met on Tuesday evening, when it was reported that eighteen members had agreed to join it. Mr. Percy Carr, Ecclesall Road, was appointed Secretary and storekeeper, and Mr. H. G. Williams, 118 The Moor, Treasurer. A committee of management was also appointed, consisting of the Secretary and Treasurer, Messrs. J. T. Alcock, J. T. Appleton, R. Dixon, C. A. Gardner, and J. G. Jackson.

The annual general meeting of the Ashton-under-Lyne Chemists' Association was held on January 18 at the George and Dragon Hotel, the President (Alderman J. J. Phillips, J.P.) in the chair. There were also present Alderman Simpson, J.P., Councillor Avison, J.P., Messrs. Bagnall, Gambling, Hall, Hanna, Hewitt, Booth, Newton, Needham, Rhodes, G. Simpson, and Stocks. The Hon. Secretary's report showed the strength of the Association to be three honorary members and thirty-four ordinary members. The Hon. Treasurer's report showed a balance of about 3*l.* The following officials for the ensuing year were elected: *President*, Alderman J. J. Phillips, J.P.; *Vice-Presidents*, Councillor J. Avison, J.P., Alderman Simpson, J.P., and Mr. Wild; *Treasurer*, Mr. T. Needham, J.P.; *Secretary*, Mr. J. Holroyd, Wellington Road, Ashton-under-Lyne; *Assistant Secretary*, Mr. F. Hanna, Mellor Road, Ashton-under-Lyne; *Committee*, Messrs. Ardern, Bagnall, Chadwick, Henshaw, Hewitt, and Stock.

The monthly meeting of the Notts Pharmaceutical Association was held in Calvert's Café on Wednesday, January 23, Mr. F. Ross Sergeant presiding. In connection with a letter from the Secretary of the Pharmaceutical Society regarding pharmacy legislation, Mr. W. Gill made a statement, and moved that a deputation be appointed to wait upon the M.P.s for the city and county. This was seconded by Mr. D. Ellis. Mr. Eberlin moved an amendment that this meeting deprecates the re-introduction of the Pharmacy Bill, as containing nothing of value to chemists and druggists, and calling upon the Pharmaceutical Society to press for a Select Committee to inquire into the whole subject of pharmacy. This was seconded by Mr. W. Stewart Adamson; but after discussion the amendment was lost by seven to nine votes. Mr. A. E. Beilby then moved another amendment, to the effect that a Select Committee consider the whole matter generally. Mr. Freeman seconded this amendment, but it was lost by nine to ten votes. The original motion, therefore, was carried.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

North British Branch.

The third evening meeting of the session was held at 36 York Place, Edinburgh, on January 23, Mr. J. P. Gilmour, Glasgow (Vice-Chairman), presiding.

Reference was made to the death of Mr. G. H. Laird.

Mr. D. B. Dott (Chairman of the Branch) read three papers, which are given on p. 120 of this issue.

The Chairman, in inviting discussion, said the papers may be regarded from the point of view of expert evidence, but they are of practical importance to the pharmacist.

Mr. George Lunan thought the papers of great interest to the pharmacist, because he is frequently called upon to dispense salicin, and it is important to know the exact solubility of salicin. The Pharmacopœia does not define cold water, whether 50° or 70° F. Commercial samples of salicin vary. One sample keeps dry when mixed with bicarbonate of soda, while another becomes moist. Whether this is from using a moist bottle he could not say. He agreed with Mr. Dott's remarks about the official opium-assay process. In making a tincture containing 12.5 of morphine he found 11.5 per cent. was extracted. The process suggested is easily worked and almost approaches finality.

Mr. C. F. Henry said some medical men have rather exaggerated ideas on the solubility of salicin, and, ordering 2 dr. in a 6-oz. bottle, expect the mixture to be sent out clear, although perhaps other ingredients are added. He asked if Mr. Dott could suggest anything to increase the solubility of salicin.

Mr. Brazier thought the B.P. opium-assay process very convenient and satisfactory for pharmacists. At the same time, he had got peculiar results in examining some kinds of opium used for manufacturing-purposes. The liquid was of a light colour and the precipitate dirty brown, and instead of being crystalline was of a muddy consistence.

Mr. Somerville and Mr. A. Currie having made some remarks,

Mr. J. R. Hill related an incident in which salicin was prescribed for a woman. She afterwards asked if salicin had any connection with willows. On being told it was extracted from willows, she said she recognised the odour and remembered that an aged relative very frequently prescribed willows as a domestic remedy for rheumatism. The note on cotarnine was of general interest. He had noticed that many organic bodies lose water at a very low temperature with prolonged exposure. It is not known how water is combined in the alkaloid, and it is just possible that differences may account for the alteration in the melting-point. It is rather disappointing to find that one of the best means of determining the purity of an alkaloid—the melting-point—is upset by that fact. It might repay further study to ascertain whether there are not fixed conditions, such as placing the alkaloid in the usual capillary-tube and rapidly heating so as to minimise loss of water, which would give melting-point figures that could be relied upon as indicating pure cotarnine. A process of opium-assay, such as that suggested by Bird about a year ago, in which extraction by washing out with amylic alcohol was adopted, could be made practicable. Mr. Bird used the process in assaying compound tincture of camphor where the percentage of morphine is small, and possibly it is better adapted to such a condition than to opium itself. Mr. Hill mentioned an instance in which in assaying a sample of opium it was by accident allowed to stand for a day and a half instead of for twelve hours, and it was found to give a distinctly higher yield of morphine. He therefore attached importance to the details of the process being carefully followed. The difference in the solubility of salicin within small limits is of much importance in dispensing, but it has also considerable importance as one of the physical constants relied upon to establish purity. In the formula for cotarnine given in Martindale's "Extra Pharmacopœia" there seems to be an atom of oxygen more than is found in the formula as usually written. He (Mr. Hill) suggested the use of purely volumetric processes for standardised preparations which seem destined to increase in number.

Mr. Dott, in the course of his reply, said he had not had any experience of salicin and bicarbonate of soda becoming moist. With regard to the odour of salicin resembling that of willow-bark, it is possible that the fermentation of the liquid in extracting salicin from the bark may develop an odour which could not be got rid of entirely in the crystallised salicin. He had not made experiments with glycerin or other substances with a view to increasing the solubility of salicin. The addition of tinctures would reduce the solubility, as salicin is soluble in spirit only to the extent of 1 in 60. By rapid heating a satisfactory melting-point for cotarnine might be obtained. The official opium-assay process does not give absolute results indicating the total amount of morphine. The results in the tincture and liquid extract are under the truth, in the powder they are over the truth, and they can be adjusted to give absolute results. Instead of morphinated water for washing, as in his paper, it should be morphinated spirit. He would like a process that could be applied even in the case of adulterated opium. It is most important that official assay-processes should be so adjusted as to be within the reach of the ordinary pharmacist, and not involve the use of complicated apparatus.

COLLEGE NOTES.

Metropolitan College of Pharmacy.—Between forty and fifty students and friends were treated at the Metropolitan College on January 22 to a lecture by Mr. Thomas Maben, F.C.S., on "Bacteriology as Applied to Medicine," illustrated with a set of fine lantern-slides, those made from microphotographs having been reproduced on one-half a micron scale, so that the actual dimensions of the bacteria, etc., are easily seen. Mr. Maben took his audience through bacteriological history, from the doctrine of spontaneous generation, and the succeeding antisepsis theory to the successive discoveries of the bacilli or cocci anthrax (1850), cholera, typhoid, pneumonia (1875), tubercle and glanders (1882), diphtheria and tetanus (1884), and the blood-serum therapy of Behring opened in 1890. Slides of all the principal bacteria and cocci from microphotographs taken in Messrs. Parke, Davis & Co.'s laboratory were shown, and then the details of the preparation of the modern vaccines and sera, from culture-planting to the production of toxins by the immunisation of horses. Mr. C. E. Sage, the Principal, presided, and proposed the vote of thanks, which was seconded by Mr. W. Lamond Howie, and carried with student enthusiasm. An exhibition of products appropriate to this branch of medicine was made by Messrs. Parke, Davis & Co. prior to the lecture.

Thursday's Markets.

Cablegram.

New York, January 24:—Business in drugs is fair. Opium is a trifle easier at \$3.50 per lb. in case lots; Quinine has advanced to 21c. per oz.; Copaiba is very firm at 55c. per lb. for pure; Rio ipecac. is quoted \$1.80 and Cartagena \$1.70 per lb., being unsettled at these prices. Peppermint oil is easy at \$2.35 for bulk; Beeswax is scarce at 33c. per lb., and Menthol is slow of sale at \$2.45 per lb.

Java Quinine Auction.

At the auction of quinine held at Batavia on January 23, 5,933 kilos. Ed. II. was offered, of which 842 kilos. sold at an average price of fl. 15 (=5$\frac{1}{4}$c. Amsterdam unit), against fl. 12.10 (=3.80c. Amsterdam unit) paid at the previous auction.

Aloes.—No further consignments have reached the Crutched Friars warehouse this week, and Curaçao is again scarce.

Ammonia Carbonate.—There have been reports current of late in Germany that German and English manufacturers are about to come to an understanding. It is a fact that the selling conditions of the English makers have been changed, and that contracts are no longer booked for the whole year, but only until July 1. The import-duty into Germany, which was formerly paid by the foreign sellers, has now also to be taken into consideration. The demand has been rather brisk, as a general advance in price will be only a matter of time.

Antimony.—Crudo Japanese is quoted 70*l.* to 72*l.* 10*s.* per ton spot, and English 108*l.* to 110*l.*

Benzoin.—There is a good demand for Sumatra benzoin at from 7*l.* to 7*l.* 15*s.*, but the supply of these grades is very small, the bulk of the offerings being medium and common variety, for which there is little inquiry. For good glassy Palembang as much as 60*s.* is wanted, and low earthy ex auction has changed hands at 10*s.* per cwt.

Bromides.—In the course of the next week a conference is to be held in London between the representatives of the German Bromide Convention and certain of the American bromide-producers. The attempts which have been hitherto made to come to an understanding have been unsuccessful, and it is hardly probable that this first meeting will have any decided results; it is probable that both the groups are only feeling their way. As, however, both sides intend to find a *modus vivendi*, it is expected in bromide industrial circles that this meeting will lay the foundation for further negotiations.

Camphor.—The German refiners have advanced their quotation by 1*d.* per lb., and now quote 4*s.* 7$\frac{1}{4}$*d.* per lb., c.i.f., for bells in 5-cwt. casks, less 2$\frac{1}{2}$ per cent. discount, in limited quantities only. English bells are still quoted 4*s.* 8*d.* per lb. During the ten months ending October the exports from Japan were as follows: 1906, 2,167,185 kin; 1905, 1,969,254 kin; and 1904, 2,756,806 kin.

Cascara Sagrada.—There is some inquiry for shipment, but there are no sellers under 42*s.* 6*d.* per cwt., which price is asked for bark afloat per sailer.

Copaiba.—One holder of Maranham asks 2*s.* 9*d.* per lb. for filtered.

Dragon's blood.—A fair demand exists for qualities between 6*l.* and 9*l.* per cwt., of which there is a moderate amount on offer. Fine lump is somewhat scarce and firmly held at 11*l.* *Reed* is held at 9*l.*, at which small sales are reported. No arrivals have taken place this week.

Gamboge.—Quiet at the easier tendency of last week. Medium, rather mixed Siam pipe is held at 16*l.* 10*s.* and fair at 17*l.* per cwt. Sixteen cases are close at hand.

Golden Seal (Hydrastis) sells in small quantities at from 6*s.* 3*d.* to 6*s.* 4*d.* net.

Ipecacuanha is in fair demand; all the "Johore" left over from last sale has now been sold at 7*s.* 11*d.* per lb. Rio (Matto Grosso) is also in demand at 8*s.* 3*d.* for fair, and the Cartagena sold last week has practically all been delivered; 7*s.* 3*d.* is asked. The arrivals amount to five bales of Matto Grosso and four of Minas.

Menthol.—Higher quotations are cabled from Japan—viz., 9*s.*, c.i.f., in combination with oil at 6*s.* 9*d.* for February-April shipment.

Oil, Castor.—Hull-make is quoted 34*l.* 15*s.* per ton for seconds in barrels. Firsts for February delivery 35*l.* 15*s.*, March 34*l.* 5*s.*, April 32*l.* 15*s.*, May-June 30*l.* 15*s.*, July-December 29*l.* 10*s.*; seconds 1*l.* per ton less, ex wharf London, usual terms.

Oil, Cod-liver.—Agents in London quote 70*s.* per barrel, c.i.f. London, for 1906 oil, and business in the new oil for delivery has been done at rather below this figure. Our Bergen correspondent writes on January 21 that the statistics of the winter fisheries up to date give a catch of about 800,000 cod, producing about 800 barrels of cod-liver oil, which is not half of the output of last year's fishing at the same date. Owing to stormy weather, there has not been much done this year, but prospects are considered very favourable, as the cod has appeared at all the well-known places in and outside Lofoten. The size of the cod and the cod-liver is better than last year. The market is very quiet, but as supplies are scarce at the moment, prices have been maintained at 65*s.* per barrel, f.o.b. Bergen, for finest non-congealing cod-liver oil. The exports from Bergen up to date amount to 589 barrels, against 679 barrels at the same date of last year. The Lofoten fishing has begun with rather fair results, and this further favourable development is solely a question of weather. For March-April delivery business has been done in London at 65*s.* per barrel, c.i.f.

An advice issued by a London firm of agents states that the prospects for the new catch are favourable, and, providing the weather keeps fine, the production of steam-refined oil is likely to be larger than the previous season. Lofoten oil may be expected to arrive shortly, as the catch is reported to have begun in that district about one month earlier than last year.

Oil, Copaiba, is in fair demand; 4*s.* per lb. is now asked.

Oil, Croton, is much dearer, English distilled offering at 3*s.* per lb. Seed is extremely scarce.

Platinum.—The price of platinum, says a German report, is steadily advancing, and at present is over 30,000 roubles per pood. The present prices are the highest on record, but of late the advances have only been slight, in spite of the fact that the industry has been forced to turn to account inferior sand and waste, the working of which was formerly not considered profitable. The present prices are more or less due to natural causes and not to speculation. The reports from America of the discovery of platinum in Alaska are shown to be unfounded, and Russia is still the only source of supply. It is reported that foreign capitalists are negotiating for the sale of an important platinum concern in the Ural.

Quinine closes quiet with secondhand sellers of B. & S. and/or Brunswick sulphate at 10*d.* per oz.; buyers at 9$\frac{3}{4}$*d.* The Amsterdam quinine-works have advanced their prices by two guilders and now quote fl. 21.25 for Ed. IV. and fl. 18.25 per kilo. for Ed. II.

Sarsaparilla.—Eight bales of grey Jamaica are close at hand, and seven bales of red native have also arrived. Honduras is inquired for, but there is nothing available in first-hands.

Turmeric.—Cochin is steady at 11*s.* for split bulbs.

Wax, Vegetable.—Steady at 67*s.* on the spot for good Japanese squares.

Liverpool Drug-market.

Liverpool, January 23.

Arsenic remains firm with small stocks at from 32*l.* to 33*l.* per ton.

Castor Oil.—Good seconds Calcutta meet with rather more inquiry, the price being unchanged at 4*d.* per lb., and for shipment price remains the same. First pressure French is in rather better demand, holders now asking 3$\frac{15}{16}$*d.* per lb. to 4*d.*

Coconut Oil.—French Cochin is selling at 43*s.* per cwt., and with no further arrivals prices are very firm.

Copaiba.—Genuine Maranham is still wanting.

Copper Sulphate.—Owing to the strong position of the metal the market is again dearer at 32*l.* 15*s.* to 33*l.* per ton.

Gum Arabic.—Although stocks are small the demand is very light, prices remaining unchanged.

Olive Oil.—Reports from various districts are very unfavourable; sellers are asking an advance for common and edible qualities of old oil. It is difficult to get any offers of new crop.

Turpentine is rather dearer at 52*s.* to 53*s.* per cwt.

Answers to Correspondents.—A Limerick newspaper achieved the following recently:

> "Vanity."—Sponge your hair with the mixture three or four times a week. Cantharides is simply "bitter apples." It is poisonous, but quite harmless and really splendid for the hair.

Artificial Rubber.—Samples of a new artificial rubber (Zakin-Gummi) from Stockholm are on view at the offices of the Board of Trade, 73 Basinghall Street, London, E.C. These comprise change-mats, tubing, etc., and are both red and brown. The substance has the appearance of rubber, but is somewhat "doughy" to the feel, and is stated not to be able to withstand moisture—one of the chief functions of natural rubber.

Seychelles Copra and Coconut Oil.

During the past decade there has been a gradual development in the copra and coconut-oil industry in many parts of the world. Formerly the principal demand came from soap-manufacturers and confectioners, but some five years ago a new industry sprang up in the manufacture (particularly in Marseilles) of a series of food-products known as "vegetaline," "cocoline," "cocos butter," etc., and these have since attained a large sale. There are now five large factories manufacturing these "butters" in France, which find a market mostly in the tropics, and it is expected that the quantity of coconut oil absorbed in this industry will far exceed that consumed by soap-makers. In view of these facts it may be interesting to give a short account of the coconut-oil industry as it now exists in the Seychelles and Mauritius, some particulars of which have been communicated to us by Mr. F. R. Ellis, F.C.S.

Coconut oil is mostly manufactured in the smaller islands of the Seychelles, such as the Farquhar Islands, Aggellega, Glorioso, Providence, Diego, Daros, and Trois Frères islands. This is owing to the fact that the annual cyclones are not so disastrous to the coconut trees in the smaller islands. The process of copra-making is practically the same throughout the Seychelles. It consists of first stripping the ripe fruit of the outer fibrous husk. This is effected by means of a stout, sharp spearhead, the handle or shaft of which is firmly embedded in the ground to such a depth that the spear-point projects above the soil rather less than waist high. The operator then strikes the nut upon the spear-point, giving it a downward rotary twist, and thus, with apparent ease, quickly removes the husk. It is said that one operator can husk a thousand nuts per day, and records have been made of as many as three thousand per day. The work, however, is exceedingly hard, and involves great dexterity and strength of wrist. Another man then takes up the kernel and strikes it a smart blow in the middle with a "bolo," dividing it into two almost equal parts. The broken kernels are then spread out and exposed to the sun upon slabs of rock or any masonry that throws back the heat. They are allowed to remain seven to ten days, or for such time as may be necessary to cause the "meat" to contract and shink away from the hard outer shell, so that it may be easily detached with the fingers. When in this dry state it is called copra, and a large trade is done in it with Zanzibar, Mauritius, Bombay, Singapore, and Ceylon, principally for agricultural purposes. Some of the "oil-cake" of England contains as much as 75 per cent. of copra. In order to extract the oil the copra is placed in a primitive wooden mill which is worked by a blindfolded ox or mule harnessed to a pole, in the same manner as olives are pressed. The oil obtained is at first almost water-white, and afterwards solidifies gradually on its way from the tropics to colder climates. It is usually exported in barrels, and is manufactured all the year round.

Dr. Alex. Peddie, 15 Rutland Street, Edinburgh, who died on January 19, at the age of ninety-six, was the oldest medical practitioner in Scotland.

A Chance for Planters.—A Madras correspondent informs planters who are on the outlook for new lands on which to plant rubber that the Rajah of Nilambur is willing to give every encouragement to European planters. The soil is very rich and suitable for Pará rubber-trees.

Pasteur Institute in Madras.—The Madras Government have issued an order constituting a Pasteur Institute for South India and promulgating rules for its management. The Governor, the Nizam of Hyderabad, the Maharajahs of Mysore and Travancore, and the Rajah of Cochin are patrons.

What's in a Name?—Our Italian brethren have high-sounding titles. They qualify and become pharmacy "Laureates." They qualify with distinction in, say, chemistry, and become "Dr." And no matter how humble their qualification, they are "Professor" to anyone wanting a favour of them.

Coming Events.

Notices for insertion under this heading should be received by the Editor on Wednesday of each week.

Saturday, January 26.

Inter-pharmacy Football League. Matches: Muter's *v.* London; Metro's *v.* Square (Gorringe Park).

Monday, January 28.

Edinburgh Chemists' Trade Association, 36 York Place, at 8 p.m. Address by the Traders' Defence Association on "The Defensive Movement against Co-operative Societies."

Society of Arts, John Street, Adelphi, W.C., at 8 p.m. Cantor lecture (I.), by Professor John W. Gregory, on "Gold-mining and Gold-production."

Wednesday, January 30.

Cardiff Pharmaceutical Association, Park Hotel, at 3.30 p.m. Annual meeting; at 6.30 p.m., annual dinner, at which Mr. T. H. Williams Idris, M.P., and Mr. J. Rymer Young (President of the Pharmaceutical Society) will be present. Tickets, 6*s.* each, from Mr. R. Mumford (Hon. Secretary), 17 Meteor Street.

Leeds Chemists' Association, Collinson's Café. Whist-drive and dance. Tickets from the Hon. Secretary, Mr. J. R. Bentley, 85 Kirkgate.

Society of Arts, John Street, Adelphi, W.C., at 8 p.m. Mr. James Parsons, M.A., on "Apprenticeship."

Public Dispensers' Association, St. Bride Institute, Ludgate Circus, E.C., at 8 p.m. Annual meeting and paper by Mr. R. W. Lindsey on "The Art of Pharmacy in Olden Days."

Thursday, January 31.

Chemists' Assistants' Association, 73 Newman Street, London, W., at 9 p.m. Mr. H. Creemer Cooper, M.R.C.S., L.R.C.P., L.D.S., on "The Evolution of Dentistry."

Cheltenham Chemists' Association, Constitutional Club Rooms, at 9 p.m. Annual meeting and election of officers.

Liverpool Chemists' Association, Royal Institution, at 8 p.m. Presidential address by Mr. J. T. Hornblower.

North-East Lancashire Chemists' Association, Bute Café, Blackburn, at 8.30 p.m. Mr. James Riley on "Our Present System of Weights and Measures."

Barnsley Chemists' Association, Royal Hotel, at 7.30 p.m. Mr. W. Rigby on "Lenses."

Friday, February 1.

Royal Institution of Great Britain, Albemarle Street, London, W., at 9 p.m. Sir Almroth E. Wright on "The Methods of Combating the Bacteria of Disease in the Interior of the Organism."

Saturday, February 2.

Inter-pharmacy Football League. Matches: Square *v.* Westminster; Muter's *v.* Metro's.

The annual ball of the Sheffield Chemical and Pharmaceutical Society will be held at the Royal Victoria Hotel on February 7. Tickets can be obtained from the Hon. Secretary, Mr. H. G. Williams, 118 The Moor.

The annual dinner of the Ashton-under-Lyne Chemists' Association will be held at the George and Dragon Hotel, on February 5. Tickets (5*s.* each) may be had from the Hon. Secretary, Mr. Jas. Holroyd, Wellington Road, or Mr. F. Hanna, Mellor Road.

The annual dinner of the Leicester Chemists' Association will be held at the Grand Hotel on February 12. Mr. R. Winfrey, M.P., Mr. J. Rymer Young (President of the Pharmaceutical Society), and Mr. W. S. Glyn-Jones, barrister-at-law, are expected to be present. Tickets may be had from Mr. Geo. E. Marfitt (Hon. Secretary), Infirmary Square.

The annual dinner of the Peterborough Chemists' Association will be held at the Grand Hotel, Peterborough, on February 21. Among those who have promised to attend are Mr. R. Winfrey, M.P., Mr. Michael Carteighe, Dr. Symes, and Mr. W. S. Glyn-Jones. Tickets (4*s.* each) can be had from the Hon. Secretaries, Mr. J. E. Saunders and Mr. John W. Hall, 6 Long Causeway.

At a dinner of the Spectacle-makers' Company held on January 23, Sir G. Faudel-Phillips announced that a member of the wholesale trade and a liveryman of the Guild had promised ten guineas a year for five years, to award prizes to the most efficient candidates presenting themselves at the London examinations of the Company. Among those present were Mr. Trentham Maw and Colonel Clifford Probyn.

Exchange Column—Bargains.

TERMS.

One halfpenny per word with name and address. One penny per word if we register the address and attach a number.

No Advertisement inserted for less than 6d.

TO BUYERS AND SELLERS.

We take every care to ensure that proprietary and other goods advertised in this column are genuine surplus stock of reputable persons in business, and are compelled to refuse advertisements sent by those who, when occasion requires, decline to satisfy reasonable inquiries as to their *bona-fides*.

We again call the attention of those who use this column for the sale or purchase of goods to the desirability of using our Deposit System. Some forward goods before they receive money for them, and others forward money to advertisers before they have even seen the goods. Disappointment in such circumstances is bound to happen now and then, and it is to prevent this, as well as to check fraud, that our Deposit System was instituted.

The buyer sends us the money for the goods, and when we hear from him that they are satisfactory, and not till then, we hand over the money to the seller. A commission of 6*d.* is charged by us on any transaction of 3*l.* or less, and 1*s.* if above that amount. The commission is payable by the buyer, and should be included in the money sent to us. All Cheques and Postal Orders should be made payable to "Edward Halse," and crossed "Martin's Bank, Ltd."

FOR DISPOSAL.

BOOKS AND PERIODICALS.

DENTAL Magazines: "Items of Interest," 1905, 1906; "Le Laboratoire," 1906; 7*s.* 6*d.* LITTLER, Chesterton, Staffs.

OFFERS wanted for "Journal Chemical Society," 1903 to 1906 inclusive. "M.," 135 St. Julian's Farm Road, West Norwood.

"NOSTRUMS," a pamphlet giving the composition of all prominently advertised patent medicines of every description; 7*d.* post free. H. MARX, Bain Square, Dundee.

MUST clear; no reasonable cash offer refused for last few years' "Chemist and Druggist," unbound, also "Diaries," as new; state requirements; correspondence invited. LLOYD SMITH, 13 Sherrard Street, Melton Mowbray.

DRUGS AND CHEMICALS.

OVERSTOCKED.—Twelve 1-lb. bottles chlorodyne; a splendid article; carriage paid 2*s.* lb., lot 1*s.* 6*d.* "PHARMACEUTICAL CHEMIST," 1 Westgate, Cleckheaton.

FORMULÆ.

NOTHING pays like your own specialities; Lee's 100 practical recipes contain all that the up-to-date chemist requires, 2*s.* 6*d.* post free. LEE, Chemist, Teddington.

OPTICAL AND PHOTOGRAPHIC.

60 MICROSCOPE-SLIDES, 1*s.* 6*d.* doz., 6*s.* 6*d.* lot. LINTIN, 170 Freedom Road, Sheffield.

WHAT offers ½-pl. Saunderson, nearly new, 3 slides, retail over £12? NOWELL, Park Parade, Harlesden.

LEITZ'S microscope, in case, as new, double nose-piece, cost £6 5*s.*; what offers? deposit. 114/33, Office of this Paper.

HALF-PLATE Cameo camera, Beck symmetrical lens, Bausch & Lomb shutter, 3 dark slides, 2 ¼-plate adapters, stand and case; almost new; £2. QUALTROUGH, Chemist, Douglas, I. of M.

PROPRIETARY ARTICLES.

CHEMISTS' emulsion (oil), 22 large, 15 medium, 12 small. 114/35, Office of this Paper.

2*s.* 3*d.* CAPSULOIDS, overstocked, 1 doz. for 20*s.*, or exchange other patents. "CHEMIST" (118/301), Office of this Paper.

OVERSTOCKED, ½ doz. 4*s.* Fellows' syr., stamped, 31*s.* doz.; ¼ doz. 7*s.* Fellows' syr., stamped, 54*s.* doz.; net, carr. paid; cash with order. H. BELLRINGER, Chemist, Great Clowes Street, Broughton, Manchester.

SHARES.

SHARES for sale. See p. 198.

SHOP FITTINGS.

6 2-GAL. pear-shape carboys; what offers (six)? BARTLETT, Chemist, Winchester.

NATIONAL cash register, No. 95-4; cost £105; what offers? Full particulars from DOBLE, Chemist, Tavistock.

PLATE-GLASS stand, lacquered, 3 shelves, 26 by 18, 22 by 16, 20 by 14 (Potter, fig. B 570, 63*s.*), as new 38*s.*; 2 2-gal. carboys, cut stoppers, pear shape, York Glass Co., 5*s.* each. SMITH, Chemist, Durham.

MUST be cleared.—Counter, 8 ft. long, 3 ft. wide, case fronted mahogany, 12 drawers, £3 10*s.*; dispensing top, 6 ft. long, marble slab and mirror centre, 2 cases, mirror-backed and glass shelves, £3 15*s.*; 6-ft. marble-topped counter, 12 drawers behind, offer wanted; sponge-case, listed in Maw's list at £5, for £2; mirror in mahogany frame, standards and glass shelves for corner window, part of window enclosure, etc. BLACKBOURN, Chemist, Southport.

MISCELLANEOUS.

B.P. '98; easy sign-writer; 2 ¼-pl. film cameras, 30*s.*, 42*s.* Offers, 29 Coventry Road, Wavertree, Liverpool.

SEVERAL cwt. P. French chalk opt., 1 cwt. 6*s.*, 2 cwt. 11*s.*; 12 bottles ol. citronellæ at 2*s.* 2*d.* lb.; 1 11*s.* Clarke's blood-mixture 6*s.* WATERHOUSE, Broomhall Street, Sheffield.

DENTAL engine, English make, cost £5, sell £3 15*s.*, never used; gas apparatus complete, also 50 and 100 gal. cylinders. H. GRANDISON, 14 Rona Road, London, N.W.

4-OZ. Battle's bromidia (unopened), 2*s.* 6*d.*; dental hypo-syringe new, nickel case, 5*s.*), 25-gal. tank, screw brass tap (clean); offers 2 small vinegar-casks. RIDING, Crookes, Sheffield.

WATER-BED for sale, perfectly new condition; only used a few weeks; Maw's pattern, No. 545, corrugated funnel at end; list price £13; sale price £6 10*s.*, or nearest offer. COCKS, Cranleigh House, Combo Martin.

OVERSTOCKED, 5 barrels new cod-liver oil, 70*s.* barrel; 12 oz. sulphate of quinine, 9*s.*; 5 gross 2 to 20 oz. poison-bottles, 7*s.* gross; Maw's 1 gal. double-action tincture-press, cost £6, price £2; chemical-dispensing balance, in case, cost £8, price £2; O'Brian's patent cash-till, cost double, price £3. BUTTERWORTH, 354 Stretford Road, Manchester.

WANTED.

GALLON tincture-press. "M.," 45 Kidderminster Road, Croydon.

PLATINUM, disused, for cash. P. ROWSELL, 11 Crebor Street, Dulwich.

SURPLUS stock patents, drugs, tabloids, etc., cheap. D. COYNE, Castlerea, Ireland.

COUNTER and dispensing scales and a few ointment-rounds. LOW, Portslade, Sussex.

THREE 1 or 2 gal. percolators. State price and particulars, 112/5, Office of this Paper.

GOOD toilet formula purchased. Particulars to W. LEWIS, 12 Shelden Street, London, W.

MINOR books, chemists' books, for cash or exchange. **GOWER, Bookseller, Waterloo, Liverpool.**

SHOP-ROUNDS, carboys, other fixtures; cheap. QUINN, Chemist, 35 Guildford Road, Stockwell.

COLLAPSIBLE-TUBE filling machine. Send description and price to "PASTE," 150 Southampton Row, W.C.

MATERIA MEDICA cabinet, suitable for Minor student. Particulars and price to HODGSON, Chemist, Sunderland.

WANTED, the address of Walsam, Davey & Co., late of Regent House, Regent Street, W. "T. A." (20/50), Office of this Paper.

DENTAL showcase, about 2 ft. long, 14 to 16 in. wide, and 8 or 9 in. deep, glass shelves and mirror back. RICHMOND, Doris Street, Newmarket.

Printed by SPOTTISWOODE & CO. LTD., New-street Square, and Published at the Office, 42 Cannon Street, in the City of London.—*Jan.* 26, 1907.